

LOST PHONE? PROTECT YOUR MOBILE DATA p.79

PCWorld

FIRST LOOK

Windows 8

**How It Will
Change the Way
We Work and
Play** p.62



**+ SPECIAL GAMING SUPPLEMENT
BEST PC & CONSOLE GAMES** p.85



GREAT-LOOKING

HDTVs

 p.70

CORNING
Gorilla® Glass

Tough, yet brilliant.

Visually stunning and incredibly tough, Corning® Gorilla® Glass will change the way you think about glass. Its exceptional damage resistance helps protect today's most sophisticated mobile devices from the scratches, drops, and bumps of everyday use. Corning Gorilla Glass is currently featured on millions of the world's coolest smartphones, slates, and tablets. Is it on yours?

Learn more at CorningGorillaGlass.com



©2011 Corning Incorporated. All rights reserved.

Look for Corning® Gorilla® Glass on the ASUS Eee Pad Transformer.

ASUS

November

Volume 29 | Number 11
pcworld.com



62

FEATURES

62 First Look at Windows 8

Touch-centric and more mobile-oriented than any earlier Windows, version 8 promises lots of new tricks. Here's an overview of what we know now.

70 Top TVs of 2011

We survey the current HDTV landscape—LED LCDs, plasmas, smart TV platforms, and 3D capabilities—to help you find the set best suited to displaying the content you watch.

79 Have You Seen This Lost Phone?

Losing a mobile device to theft or carelessness can be devastating. With our advice and some apps, you can guard your data and possibly recover your gear.

COMMUNITY

- 7 Techlog
- 9 PCW Forum
- 108 The Back Page

November

Volume 29 | Number 11
pcworld.com

DEPARTMENTS

13 Forward

Mobile Broadband Drought:
Users must adapt to new limits.

20 GeekTech

22 Staff Picks

25 Consumer Watch

Cloud Music: Four ways to
store your tunes in the cloud.

26 Skeptical Shopper

28 On Your Side

31 Business Center

Salesforce Alternatives:
Small-business CRM services.

32 Simply Business

34 Tech Audit

37 Security Alert

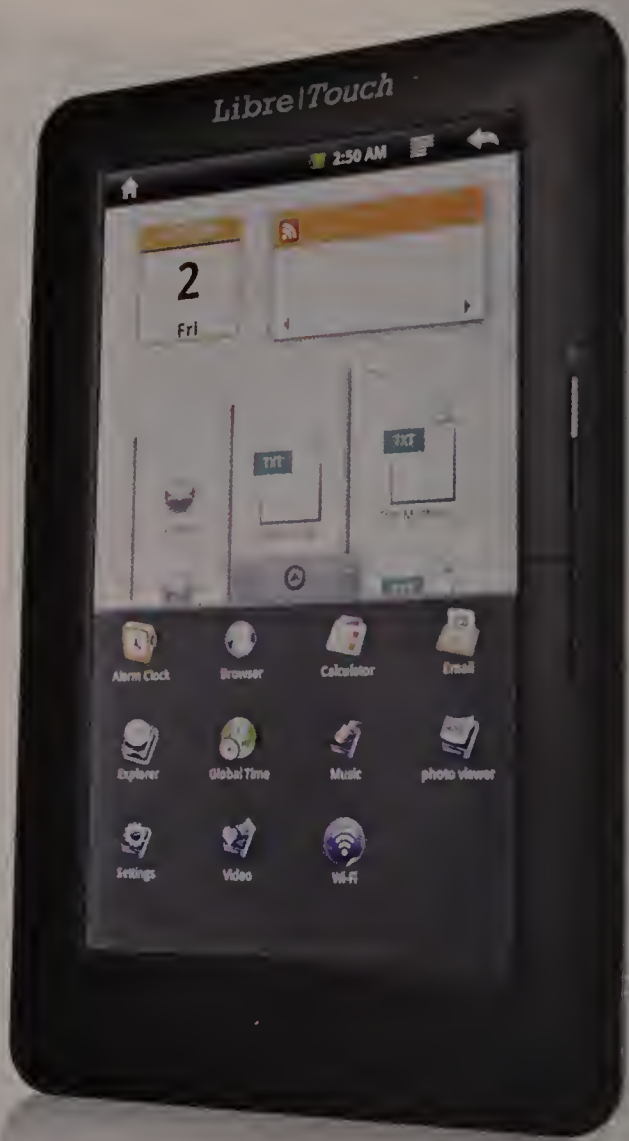
Hactivism: Online protests
can lead to breaches and leaks.

38 Bugs and Fixes

40 Privacy Watch



51



60

LAB TESTED

42 Reviews & Rankings

NAS Enclosures: Choose
your own storage drives with
these do-it-all bare-box options.

46 Acer Iconia Tab A100

48 Top 5 Inkjet Printers

51 Roku 2 XS

52 Top 10 Desktop PCs

54 NTI Media Maker 9

56 Top 10 Laptops

60 Aluratek Libre Touch

GAMING

85 Game On

The Best Rigs: These eight
desktops promise impressive
performance in the latest titles.

80 Top PC Games

94 Top Console Games

DO IT YOURSELF

98 Here's How

Upgrade Your RAM: Wheth-
er desktop or laptop, here's how
to upgrade system memory.

103 Answer Line

105 Hassle-Free PC



Virtualize more with WebSphere. Or pay more with WebLogic.

Over 400 highly logical reasons to choose IBM WebSphere® over Oracle WebLogic :

1. Save 57% on first-year licensing and support.
2. Choose from more virtualization options (including VMware and Xen).
3. Pay only for cores you use (not always true with Oracle WebLogic).
- 4-404. Be in good company (last year, over 400 Oracle WebLogic clients chose IBM WebSphere).

ibm.com/facts

PCWorld SUPERGUIDE

**Tips to Speed
Up Everything:**
If your gear has lost
its pep, these fixes will
get you back into the
fast lane.

GET YOURS TODAY!

[WWW.PCWORLD.COM/
SUPERGUIDE/SPEED](http://WWW.PCWORLD.COM/SUPERGUIDE/SPEED)

PDF \$12.95 | **CD** \$14.95 | **BOOK** \$24.99

\$3 off coupon code:
PCWREADER

» Hardware
» Graphics
» RAM
» Network
» Printers



PCWorld

VP, EDITORIAL DIRECTOR Steve Fox
EDITOR Edward N. Albro
EXECUTIVE EDITOR Tom Spring
MANAGING EDITOR Kimberly Brinson

EDITORIAL

SENIOR EDITORS Jason Cross, Anne B. McDonald,
Tim Moynihan, Melissa J. Perenson, Melissa Riofrio,
Mark Sullivan

SENIOR ASSOCIATE EDITOR Elsa Wenzel

ASSOCIATE EDITORS Colis Ferguson, Nick Mediati,
Ginny Mies, Patrick Miller

ASSISTANT EDITOR Nate Ralph

STAFF EDITORS David Daw, Megan Geuss

DOWNLOADS EDITOR Laura Blackwell

NEWSLETTER EDITOR Kim Saccio-Kent

SENIOR COPY EDITORS Stephen Compton,
Steven Gray, Tracy Yee-Vaught

EDITORIAL ASSISTANTS Armando Rodriguez,
Alex Wawro

EDITORIAL INTERN Michelle Mastin

ART AND DESIGN

ART DIRECTOR Beth Kamoroff

DESIGNER Kate Godfrey

PHOTOGRAPHER/STUDIO MANAGER Robert Cardin

PREPRESS COLOR IMAGING SPECIALIST
Marianna Whang

CONTRIBUTING EDITORS

Yardena Arar, Rick Broida, Erik Larkin, James A. Martin,
Harry McCracken, Aoife M. McEvoy, David Murphy,
JR Raphael, Scott Spanbauer, Lincoln Spector, Carla
Thornton, Dan Tynan, Robert Vamosi, Peggy Watt,
Leah Yamshon

PCWORLD LABS

SENIOR LAB MANAGER Jim Galbraith

LAB MANAGER Tony K. Leung

MANAGER OF BENCHMARK DEVELOPMENT James Motch

DEVELOPMENT ANALYSTS Thomas Luong,
William Wang

LAB INTERNS Alex Cocilova, Mauricio Grijalva

COMMUNITY

forums.pcworld.com

MODERATORS Richard Green, Michael-Paul Higgins,
Scott Maurer, Charlie Spivey

REPRINTS AND PERMISSIONS

You must have permission before reproducing any
material from *PCWorld*. Send e-mail requests to
permissions@pcworld.com; please include a phone
number in your message.

FOUNDERS

FOUNDER David Bunnell

FOUNDING EDITOR Andrew Fluegelman

INTERNATIONAL DATA GROUP, INC.

CHAIRMAN OF THE BOARD Patrick J. McGovern

CEO, IDG COMMUNICATIONS Bob Carrigan

BACK ISSUES

Starting with the January 2007 issue of *PCWorld*, back
issues are available at pcworld.com/backissues. These
back issues cost \$8 per copy for U.S. delivery, and \$12
for international delivery; prepayment in U.S. currency
to *PCWorld* is required. Or send a check or money
order to PCWorld Products, P.O. Box 37781, Boone, IA
50037-0781; phone 800/967-2083 (U.S. and Canada)
or 515/243-3273 (all other locations); or e-mail
mw1prod@cdsfulfillment.com.

SUBSCRIPTION SERVICES

Access your subscription account online—24 hours a
day, 7 days a week—at pcworld.com/customer. You can
use online subscription services to view your account
status, change your address, pay your bill, renew your
subscription, report a missing or damaged issue, get
the answers to frequently asked questions, and more.

MAIL: PCWorld Subscriber Services, P.O. Box 37571,
Boone, IA 50037-0571 (Include a mailing label with
correspondence.)

WEB: pcworld.com/customer

E-MAIL: maghelp@pcworld.com
(Send your full name and the address at which you
subscribe; do not send attachments.)

PHONE: In the U.S. 800/234-3498
New orders 800/825-7595

FAX: 515/432-6994

If the Postal Service alerts us that your magazine is
undeliverable, we have no further obligation unless we
receive a corrected address within one year.

QUESTIONS AND COLUMNS

Send material electronically to the appropriate online
address listed below, or mail it to *PCWorld*. We reserve
the right to edit letters.

ANSWER LINE: Visit forums.pcworld.com to ask your
question in the Answer Line forum.

ON YOUR SIDE: onyourside@pcworld.com

RICK BROIDA'S HASSLE-FREE PC: hasslefree@pcworld.com

THE BACK PAGE: thebackpage@pcworld.com

MAILING LISTS

Occasionally we make our subscribers' names available
to other firms whose products may interest you. To
have your name excluded from these mailings, send a
request and your mailing label to PCWorld Subscriber
Services, P.O. Box 37571, Boone, IA 50037-0571, or
e-mail us at maghelp@pcworld.com.

CONTACT INFORMATION

PHONE: 415/243-0500

FAX: 415/442-1891

E-MAIL: letters@pcworld.com

MAIL: PCWorld Editorial, 501 Second St. #600
San Francisco, CA 94107

STAFF E-MAIL ADDRESSES: To contact any
PCWorld staff member, simply format the
address as follows: firstname@pcworld.com

OTHER WAYS TO READ PCWORLD

RSS: pcworld.com/resource/rss.html

NEWSLETTERS: pcworld.com/newsletters

TWITTER: @pcworld

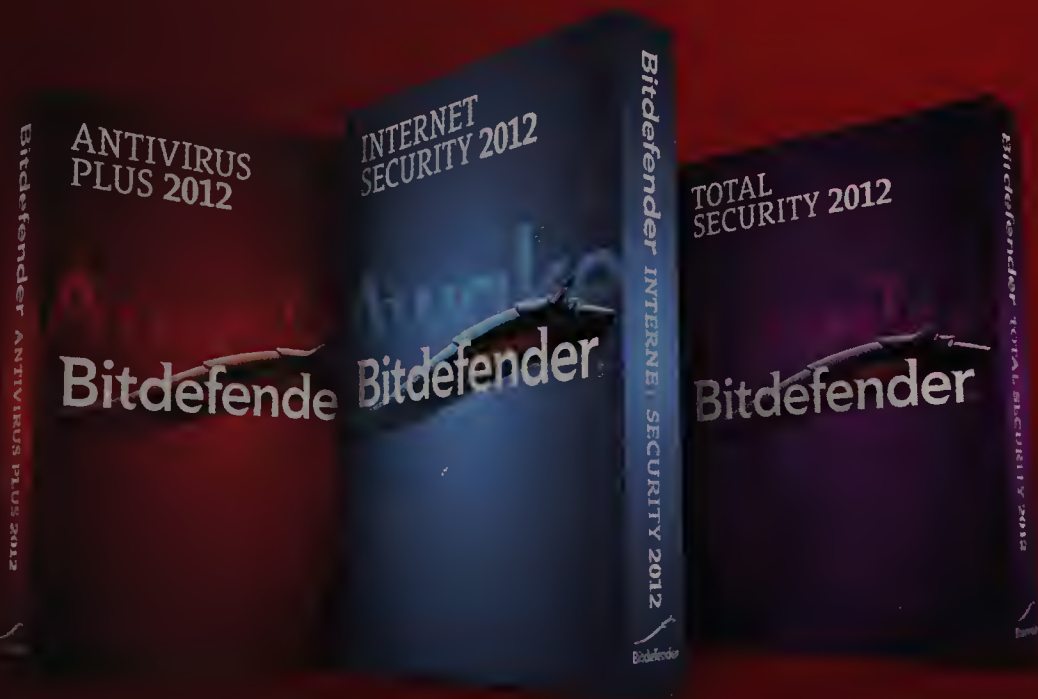
FACEBOOK: find.pcworld.com/60983

To use any find.pcworld.com/xxxxx URL in the
magazine, enter it as shown in your browser's
address field.



Bitdefender®

#1 RANKED ANTIVIRUS PROTECTION!*



Engage Autopilot for Silent Security

A hassle-free experience that requires no user input from you

- Nothing to configure
- No pop-ups
- No alerts

Learn more at: bitdefender.com

* According to AV Test, July 2011 <http://www.av-test.org>



Bitdefender
Internet Security 2011
July 2011



Bitdefender
Antivirus Pro 2011
November 2010



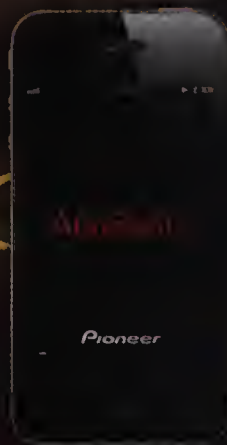
Bitdefender
Antivirus Pro 2011
August 2010



Bitdefender
Internet Security 2011
September 2011



Pioneer



AppRadio™

A revolutionary way to use apps in the car

RETHINKING CONNECTIVITY

www.pioneerelectronics.com/appradio



Limited apps are compatible with this model. Certain app-based functions such as video playback and keyboard input are only available while parked. Do not use your Pioneer system if doing so will divert your attention in any way from the safe operation of your vehicle. In some states certain operations of devices while driving may be illegal. Where such regulations apply, they must be obeyed. For more information, see www.pioneerelectronics.com/appradio. PIONEER is a registered trademark of Pioneer Corporation. AppRadio is a trademark of Pioneer Corporation. iPhone is a trademark of Apple Inc., registered in the U.S. and other countries. iPhone and Applications shown not included. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. ©2011 Pioneer Electronics (USA) Inc.



STEVE FOX

Rolling the Dice on Windows 8

YOU HAVE TO give Microsoft credit for bravery. With the likely release of Windows 8 sometime next year, the company is overhauling its flagship operating system and hoping that consumers will come along for the ride.

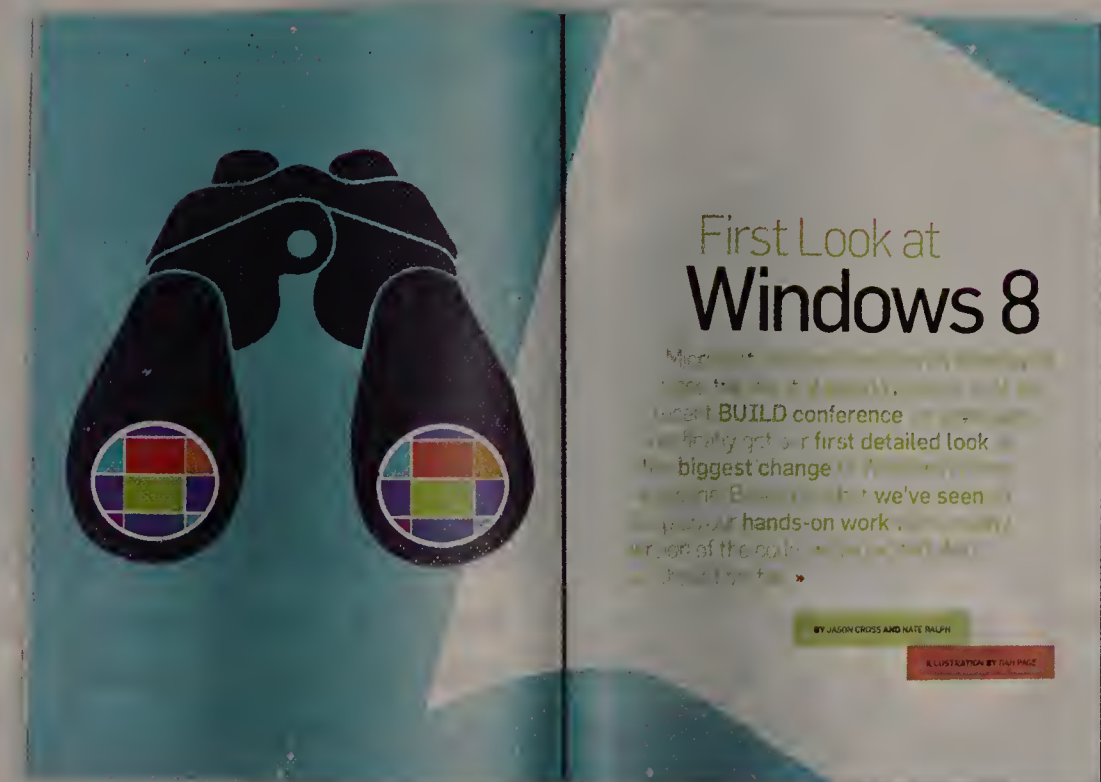
Microsoft could have played it safe, building incrementally and predictably upon the success of Windows 7: a tweak here, some speed-ups there, maybe a few concessions to woo the tablet crowd. Rank-and-file Windows users would have been pleased, and adoption would have followed apace.

Meanwhile, the mobile team could have pushed ahead with more-radical innovation on the smartphone front, with the ponderously named (yet nimbly designed) Windows Phone 7. A forward-looking operating system, the latest version of Microsoft's phone platform—code-named Mango—is scheduled for official release any day now. Based on what we've seen so far, Mango looks to be a winner, even if Windows Phone 7's overall market share remains minuscule.

Taking From Mango

Instead, the folks from Redmond are rolling the dice, stealing the best ideas from Mango and transplanting them into Windows proper. The fruits of that labor, according to the *PCWorld* editors who received a crash course in Windows 8 at Microsoft's mid-September BUILD conference, is impressive—a thoroughly modern-looking Windows created with a touchscreen as its primary focus. (For a rundown of what to

Microsoft is working on a makeover of its bread-and-butter operating system. Will Windows users accept all of the changes?



expect from the new operating system, read our "First Look at Windows 8" on page 62.)

So why do I suspect that—despite its elegant and vibrant interface, powerful feature set, and support for an array of new hardware—Windows 8 will land with a big thud...at least initially?

Because I'm not sure that the Windows faithful want their desktop OS to mimic that of their phones. We've grown accustomed to the Windows user interface. I could argue that Windows 7 succeeded because it fixed the mess that was Vista without changing the underlying desktop/mouse/keyboard interactions that people are comfortable with.

For instance, think about the Ribbon, a major interface change—one that I

find quite pleasing and useful, by the way—introduced to the Office suite back in January 2007. Nearly five years later, people are still bellyaching about the Ribbon. Read the comments in the *PCWorld.com* forums anytime the Ribbon is mentioned—you'll get an eyeful.

Now, Microsoft knows its customers well; the Windows 8 team has made sure that users can run old-school apps and interact with the PC via mouse and keyboard, much as they always have. Even so, the new interface has been designed from the ground up for touch.

If Microsoft expects users to upgrade so that they can substitute gestures for mouse clicks; tiles for icons; and smaller, more-agile apps for familiar, beefy applications, adoption could lag.

Let's just hope that we aren't about to witness Windows Vista redux. ☹

Steve Fox is editorial director of PCWorld.



CORSAIR

FORCE SERIES 3

SOLID-STATE DRIVES

Designed for speed and value

Designed to improve your productivity

Replace your mechanical hard drive with a Force Series 3 solid-state drive and you'll be amazed at the performance improvement. Startups, application load times, file access, and even shutdown times are all faster. Your system will be more responsive, and you'll get more done.

Designed for unprecedented value

Moving up to SSD speed is already one of the best performance investments you can make. Force Series 3 makes it even better by delivering SATA 3 6GB/s performance without the price premium of other SATA 3 drives. Of course, it's fully compatible with SATA 2 3GB/s for serious storage performance on any PC.

Designed for reliability

Because Force Series 3 SSDs have no moving parts, they handle shock, vibration, and temperature changes far in excess of traditional hard drives, and they run cooler, too. This is important for desktop PCs, and essential for notebooks.

The new Force Series 3 solid-state drives. Designed for you. Learn lots more at corsair.com/ssd



WE'VE DESIGNED A COMPLETE LINE OF ENTHUSIAST-GRADE COMPONENTS AND ACCESSORIES TO MAKE YOUR NEXT PC YOUR BEST PC

CASES

AUDIO

POWER SUPPLIES

MEMORY

USB DRIVES

September's wide-ranging "How to Do Everything" issue generated additional tips—and quibbles and cautions—from PCWorld readers. Would you like further advice on how to improve cell phone reception indoors, how to deal with PC cables, and how to clean HDTV and computer screens? Read on.



Cell Phone Reception

There is another way to improve your cell phone reception indoors other than by using a femtocell or signal booster [page 73, September]. This solution brings various other advantages, too.

Though my cell phone had essentially no reception from my home office, reception was fine elsewhere in the home, such as at the kitchen door.

So I installed a Panasonic KX-TG7624 wireless phone system for my home. It consists of a wireless base station and three wireless satellites.

You can pair your cell phone via Bluetooth to the KX-TG7624, and receive and make calls using your cell phone from any handset.

You can also pair two separate cell phones, and you can program any or all of the wireless stations to ring on incoming cell calls to either device.

With this setup, I get all of the typical features—intercom, voice Caller ID, phone book, alarm setting, and so on—and I also solve my original problem,

that my cell phone reception wasn't working where I prefer to!

Louis Honsell, Drexel Hill, Pennsylvania

PC Cables: Better Off Messy?

Jason Cross's article on keeping cables tidy [page 68, September] should have contained a caution. Bundling together cables for audio, video, data, and power might do more harm than good. Cross-talk can lead to intermittent or erratic operation. Also, the current capacity of many AC cables is considered to be in "free air." Consequently, bundling or coiling such cables can lead to heating or premature failure.

The wires behind a computer can be a real mess, but I have found that if everything is working, it might be best to leave them that way.

Ed Ehlis, Pueblo, Colorado

Cleaning Screens

Regarding the tips on cleaning TV and PC screens [page 63, September]: For my LCD monitor, I had tried all of the home remedies I could find—distilled water, a 50/50 solution of water and isopropyl alcohol, vapor from warm breath—but all left streaks and smudges. I found a recommendation to try Scott's Liquid Gold Clean Screen (\$8). It's widely available and the price was modest, so it seemed worth trying.

And how. A small amount of Clean Screen and some gentle rubbing with the included microfiber cloth removed all streaks and smudges, leaving my screen appearing like new.

Eric Kemmler, Formington, Connecticut

Privacy and Legality

I am really disappointed with your article on using the Tor network ["Tor Network Cloaks Your Browsing," *Privacy Watch*, September].

You are putting your reputation on the line by just suggesting this option of browsing anonymously. You should put

a disclaimer that *PCWorld* does not condone this way of surfing the Web.

At my company's recent anti-money-laundering training, a government agent from a cybercrime unit explained the network (which I had never heard of)

and its users—and apparently the so-called privacy activists [connected with Tor] are mostly crooks.

My take is, if I am not doing any- >>

I too feel Google's actions in this case to be less than evil. Perhaps they were doing no evil in helping folks get drugs at a cheaper price [see "Google's Big Fine," next page].

*jwa007,
PCWorld.com forums*

thing illegal, I have no concern with Big Brother watching. Yes, I am concerned with identity theft, but Tor will not prevent that. We are living in an information age, and the only thing we can do is take precautions. Telling readers to use Tor is just not the solution.

Charles Chang, Woodbridge, New Jersey

Editor's response: Many technologies and tools—including ones we discuss in this publication—can be used for illegal or illicit purposes, but under no circumstances does PCWorld condone using such tools to break the law. Also, though we understand the position of those who feel that if you have nothing to hide, you don't have anything to worry about, not everyone (including many people who stay within the bounds of the law) agrees with that sentiment. —Nick Mediat

Google's Big Fine

Editor's note: A story reporting that Google had agreed to pay a half-billion-dollar fine for having allowed Canadian online pharmacies to abuse Google's advertising system ("Four Key Things Google Admitted to the Feds," find.pcworld.com/72219) generated dozens of comments. Here are a couple.

I'd imagine that Google was making many middle-class Americans happy and mostly angering only large greedy American drug companies and the politicians that they have paid off.

WallyDuke, PCWorld.com forums

The reason drugs are cheaper in Canada is that the originator of the drug has a shorter time as the sole source before

generics can go on the market. A lot of these supposed Canadian drug stores were nothing but clearinghouses fulfilling orders with drugs from iffy sources.

Rndmacts, PCWorld.com forums

PCWorld welcomes your feedback. We reserve the right to edit for length and clarity. Share your thoughts in the Comments area under each story on our website, or visit our Forums (find.pcworld.com/55165). Send email to letters@pcworld.com. ●

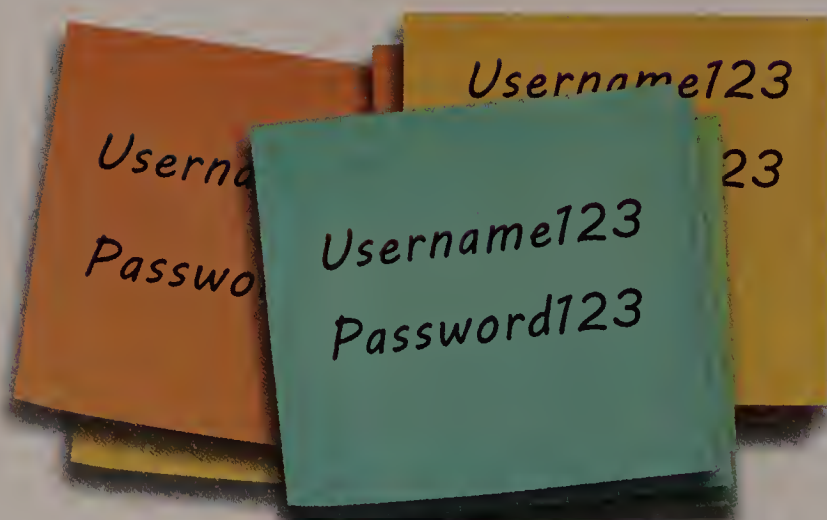
CORRECTION

IN SEPTEMBER'S "Beat Minesweeper" (page 71), we should have clarified that you can set mouse sensitivity in Windows' Mouse control panel.

PCWorld regrets the error.

Password Management

Swap this ...



For this ...



All your passwords **ONE DEVICE!**

MyLOK.ii2P.com • 1-888.890.4772

MONEUAL 312SB



HTPC

Sophisticated Creation

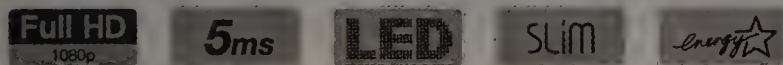


MONEUAL 320SB

Your Visual Portal

MiNEW LED Monitor

Ultra slim and stylish design
Experience extremely clear and natural picture



MONEUAL®



For more information or to purchase one of our award-winning products, call 1-877-450-0105 or visit www.moneualusa.com

Pricing and Availability: Prices, availability, and terms of any offer may change without notice or obligation. Taxes if applicable are not shown.
Moneual is not responsible for price, typographical, photographic or other errors and reserves the right to cancel any order resulting from such errors.
Microsoft and Windows are registered trademarks with Microsoft Corporation in the United States and/or other countries. © 2011 Moneual. All rights reserved.

Scan anything, anywhere!



IRIScan™ Anywhere 2



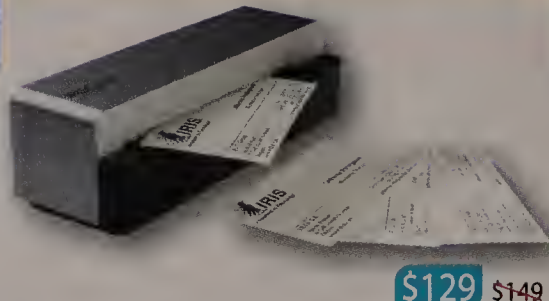
\$149 ~~\$199~~

The ultimate mobile solution for scanning all paper documents on the go.

How convenient! No computer needed to scan just about anything anywhere you are! Ideal for documents, receipts, business cards, photos, etc.

Battery powered (rechargeable).
512 MB internal memory, expandable.

IRISCard™ Anywhere 4



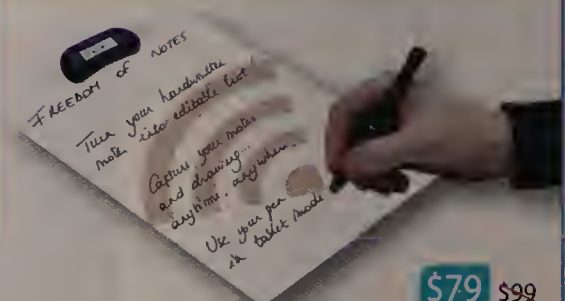
\$129 ~~\$149~~

First ever truly portable business card solution!

Scan all your cards without the need to be connected to a computer. Instantly puts your contacts in Outlook®, Address Book and many more contact managers.

Battery powered (rechargeable).
512 MB internal memory, expandable.

IRISnotes™ 1.0



\$79 ~~\$99~~

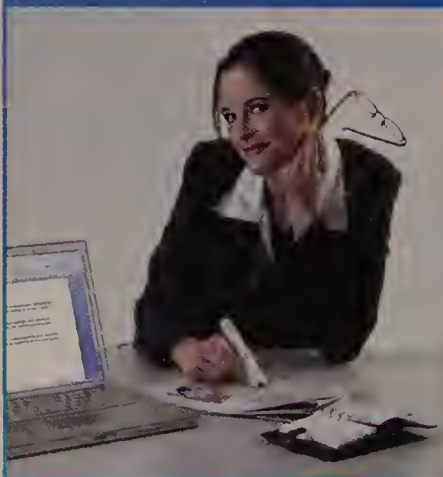
If you write it down, it's worth keeping it!

Capture your notes, drawings, doodles, in meetings, in class or even on the plane. Whatever you write will be saved for further editing, handwritten recognition, archive, etc.

Capture your notes, graphs, drawings ... anytime, anywhere!

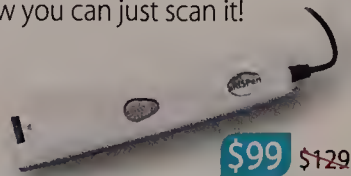
IRISPen™ 6

You scan. It types!



Easily enter printed text and numbers into your PC or Mac®.

Just zip the IRISPen™ across the page and see all the text and numbers instantly retyped into your computer. No more manual entry needed. Now you can just scan it!



\$99 ~~\$129~~

Slide it over printed information and get completely editable text, right at your cursor.

NEW!

IRISPhoto™ 4

Scan all your photos!



Any shoe boxes of pictures laying around anywhere?

Quickly scan them with the IRISPhoto™. When done, plug the scanner into your computer and just like a digital camera, upload all your photos in a snap!



\$99

Scan, organize and share your photos with friends and family.

All I.R.I.S. products are Windows® and Mac OS® compatible, come with 2 year limited warranty, free online technical support and customer service

Exclusive PC World Offer at www.irislink.com/pcworld

Forward



Facing a Mobile Bandwidth Drought

BY ERIC MACK

ON YOUR MOBILE service you've no doubt experienced long waits for buffering videos, apps that hiccup as the Net connection cuts out, and Web pages that load at a crawl. Is a wireless broadband shortage coming?

In July, researchers at investment bank Credit Suisse reported that North American mobile networks are filled up to 80 percent of capacity.

Smartphones, broadband gluttony, and our addiction to mobile apps are putting us on a path to scarcity in wireless spectrum.

In response, carriers have been rushing to roll out more 4G LTE and other, faster networks marketed as 4G to meet demand; but mobile customers' data consumption for bandwidth-intensive activities like streaming HD video is rapidly increasing.

Cisco and Bytemobile estimate that video-generated

mobile data traffic will double every year for the next four years, at which point it will account for two-thirds of all mobile data traffic.

Don't Panic

None of this is to say that a mobile bandwidth apocalypse is in the offing. Overall, the Internet has a healthy

backbone. In fact, Internet traffic is growing much more slowly today than it was at the turn of the century, when IP traffic was doubling year by year, as many U.S. homes acquired cable and DSL modems for the first time.

Telegeography, a company that monitors global Internet traffic, predicts a 53 percent annual increase in peak international traffic in 2011, less than the 68 percent increase seen the previous >>

year. The firm's numbers reflect mostly wired traffic.

On mobile networks, however, it's a different game. In the United States, we've enjoyed life without mobile bandwidth caps. But that era is ending as carriers adopt network management policies to forestall a possible mobile broadband drought.

Philip Solis of ABI Research says that such caps are probably the most palatable, to consumers, of the few options that mobile carriers have. The other alternatives are to let network quality degrade, as Solis believes is already happening in some areas; to build out more network capacity at a high cost; or to acquire

Carriers unanimously say that only a small percentage of their users are affected by caps, and that claim appears to be true—for now.

more spectrum, a process that could be expensive and could get caught up in politics and other complications.

New Pricing Schemes

"They are not unaware of their options, but it seems like many operators are not sure which solution(s) is best for them," writes analyst Kristin Paulin of Informa Telecoms and Media in an

email message to *PCWorld*. She says that U.S. carriers have been slow to deal with the potential for a bandwidth drought, and she considers it likely that other methods, such as application-based plans, are still in the works.

In the future, Paulin says, operators may offer a "social networking" data plan that gives consumers unlimited access to Facebook and Twitter. Alternatively, a wireless carrier could provide a data cap of 5GB, say, on other bandwidth-intensive uses such as wireless access to Hulu, iTunes, or a videoconferencing app. Yet another approach would be to cap data use during peak hours of the day, she says.

To this point, carriers have been fighting the future by trying to do a little of everything, including acquiring spectrum and building out networks, albeit not fast enough to avoid the move to data caps. Still, all of them insist that only a small percentage of users are affected by caps, and that claim appears to be true—for now.

The question is whether it will continue to hold true when streaming HD video to a 4G tablet becomes the nation's most popular after-dinner pastime. If carriers underestimate mobile video demand, as they did mobile signaling, video buffering may replace dropped calls as the bane of wireless life.

TECH SPOTLIGHT: IPHONE CAMERA ACCESSORIES



OLLOCLIP The Olloclip three-in-one camera lens for iPhone 4 combines fish-eye, wide-angle, and macro lenses in a single conveniently small package. The lens system clips snugly onto the side of your handset, but unfortunately it isn't compatible with protective cases or screen protectors for the iPhone. Olloclip comes in black or red for \$70 from www.olloclip.com.



OWLE BUBO Action Life Media's OWLE Bubo is a solid aluminum iPhone camera mount and stabilizer with a two-handed grip, interchangeable 37mm wide-angle macro lens, four tripod mount points, microphone, and accessory mount. The Bubo is available for the iPhone 3G and 3GS (\$160), and for the iPhone 4 and iPod Touch 4G (\$170) at find.pcworld.com/72263.



KOGETO DOT Take 360-degree panoramic video clips with your iPhone 4 by using Kogeto's Dot snap-on accessory lens in conjunction with Looker, a no-cost companion application that (according to Kogeto) should be available at the iTunes App Store by the time you read this. Dot comes in four colors: black, green, pink, or red. It sells for \$79 from www.kogeto.com.



SLR MOUNT Online photo accessory store Photojojo offers two mounts that you can use to attach Canon EOS or Nikon SLR lenses to your iPhone 4. Photojojo warns that you may have to make several small adjustments to get the iPhone and your lens in sync when focusing on your subject. The SLR mount is available from Photojojo (at find.pcworld.com/72264) for \$249.

Power, performance and trusted experience. Precisely what you need.



The IBM System x3650 M3 Express[®] server with the latest Intel[®] Xeon[®] processor 5600 series can help increase productivity and minimize costs. Featuring a 55% increase in processing power,¹ you'll be able to drive business results faster and can achieve a return on your investment in up to three months.² Furthermore, with the valuable expertise of IBM Business Partners, you can create an IT environment optimized to keep pace with your growing business.

Rated No. 1 in Server Customer Satisfaction by TBR for the 6th consecutive quarter.³



IBM System x3650 M3 Express

\$2,799

OR \$72/MONTH FOR 36 MONTHS⁴

PN: 7945-E6U

Outstanding performance for most business applications

Unprecedented low price point

Readily available inventory — stocked in the channel

IBM System x3400 M3 Express

\$1,699

OR \$44/MONTH FOR 36 MONTHS⁴

PN: 7379-E5U

Ideal tower server for small/mid-sized and distributed businesses

Optimum performance and processing capability at a low cost

Readily available inventory — stocked in the channel



IBM System Storage[®] DS3500 Express

\$5,499

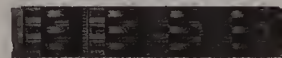
OR \$141/MONTH FOR 36 MONTHS⁴

PN: 1746-A2S

External SAS switch support

10 GB iSCSI

Expands to 192 drives per system



Get the whitepaper

See how IBM consistently meets high customer expectations.

ibm.com/systems/satisfaction

Contact the IBM Concierge to help you connect to the right IBM Business Partner.

1 866-872-3902 (mention 601BB27W)

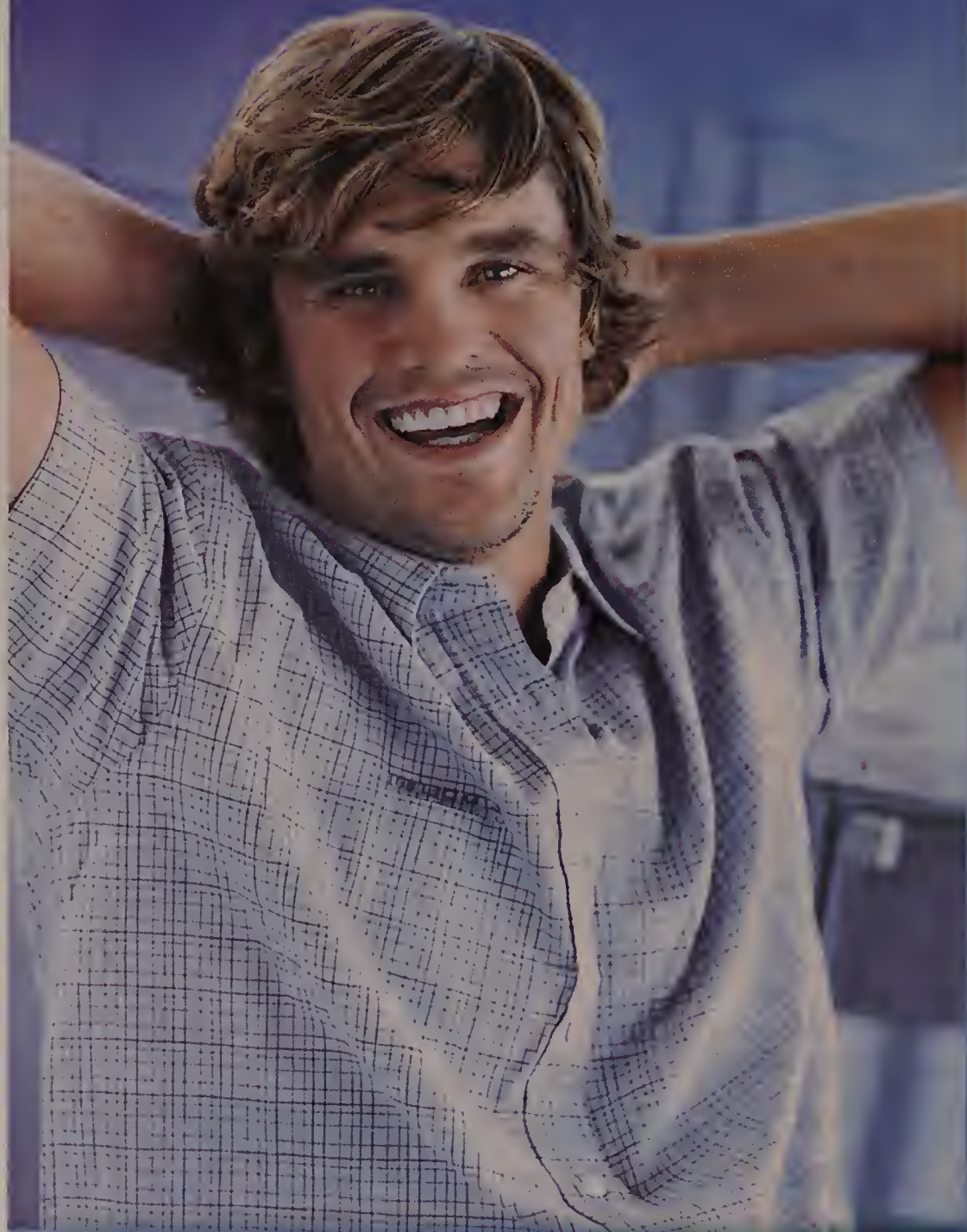
Or



¹x3650 M3: 931,658 SPECjbb2005 bops 155,276 bops/JVM; Intel Xeon X5690 2 chips/12 cores. x3650 M2: 598,924 SPECjbb2005 bops 149,731 bops/JVM; Intel Xeon X5570 2 chips/8 cores. Results as of 4/5/11. <http://www.spec.org/jbb2005/results>. SPEC and SPECjbb are registered trademarks of Standard Performance Evaluation Corporation (SPEC). ²Based on comparing previous generation, 200 servers IBM eServer xSeries 346 (3.0GHz) (2Ch/2Co) to new generation 10 servers IBM x3650 M3 (Xeon E5650) 2.66GHz (2x6) using the IBM Consolidation Evaluation tool. ³TBR 4Q10 x86-Based Servers: Corporate IT Buying Behavior and Customer Satisfaction Study, February 2011. ⁴Global Financing offerings are provided through IBM Credit LLC in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Monthly payments provided are for planning purposes only and may vary based on your credit and other factors. Lease offer provided is based on an FMV lease of 36 monthly payments. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice. IBM hardware products are manufactured from new parts or new and serviceable used parts. Regardless, our warranty terms apply. For a copy of applicable product warranties, visit http://www.ibm.com/servers/support/machine_warranties. IBM makes no representation or warranty regarding third-party products or services. IBM, the IBM logo, System Storage and System x are registered trademarks of International Business Machines Corporation, registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. For a current list of IBM trademarks, see www.ibm.com/legal/copytrade.shtml. Intel, the Intel logo, Xeon and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries. All other products may be trademarks or registered trademarks of their respective companies. All prices and savings estimates are subject to change without notice, may vary according to configuration, are based upon IBM's estimated retail selling prices as of 04/29/11 and may not include storage, hard drive, operating system or other features. Reseller prices and savings to end users may vary. Products are subject to availability. This document was developed for offerings in the United States. IBM may not offer the products, features, or services discussed in this document in other countries. Contact your IBM representative or IBM Business Partner for the most current pricing in your geographic area. ©2011 IBM Corporation. All rights reserved.

QUALITY W

OFFERING SUPERIOR WEBSITE SEC



1&1 DUAL HOSTING

Best value for your business! We are dedicated to security, innovation and value when it comes to your website.

- ✓ **Dual Security:**
Your website is simultaneously hosted in 2 locations in our geo-redundant data centers!
- ✓ **High speed Global Network:**
210 GBit/s Connectivity
- ✓ **Environmentally Responsible:**
100% Renewable Energy
- ✓ **Solid Technical Foundation:**
1,000 In-house Developers

MEMBER OF
united
internet

PCWorld SUBSCRIBER SAVINGS VOUCHER

▶ SAVE 76%

Please send me **PCWorld** and my **FREE**
PC Tune-Up All-Stars Vol. 2 CD-ROM

- 2 years (24 issues) for \$29.97 – just \$1.25 per issue **◀ Best Deal**
 1 year (12 issues) for \$19.97 – just \$1.66 per issue

NAME (please print)

ADDRESS

CITY/STATE/ZIP

E-MAIL To receive a FREE *PCWorld* email newsletter and updates about your subscription to *PCWorld* magazine, please provide your email address.

Payment Enclosed Bill Me Later

Savings based on annual U.S. newsstand rate of \$83.88. Offer valid in U.S. only. Foreign orders must be prepaid in U.S. funds with additional postage. Add \$10 per year for Canada; and \$20 per year for foreign air delivery. Canadian GST or HST included where applicable. Or order online at <http://www.pcworld.com/outsideUS>

Cover Price: \$83.88

Subscriber Savings: **-\$63.91**

You Pay Only: **\$19.97**



Get the PC
Tune-Up All-Stars
Vol. 2 CD-ROM for **FREE**
when you subscribe!

J1BS21

Rush my bonus gift!



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO 104 BOONE IA

POSTAGE WILL BE PAID BY ADDRESSEE

PCWorld

SUBSCRIPTION DEPARTMENT
PO BOX 37568
BOONE IA 50037-2568

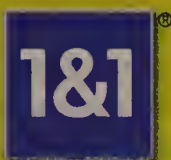


WEB HOSTING

PRIORITY WITH 1&1 DUAL HOSTING!

--- HURRY! OFFER ENDS 10/31/2011 --- HURRY! OFFER ENDS 10/31/2011 --- HURRY! OFFER ENDS 10/31/2011 ---

NOW
6 MONTHS
FREE!*



GoDaddy®

Network
Solutions®

Package	1&1 BUSINESS	ULTIMATE	UNLIMITED
Domains	1	0	1
Webpace	unlimited	unlimited	unlimited
Traffic	unlimited	unlimited	unlimited
1-Click Applications	unlimited	unlimited	-
E-mail	unlimited	1,000	unlimited
MySQL	unlimited	unlimited	unlimited
FTP Accounts	unlimited	50	unlimited
Dedicated IP Address	✓	✓	-
Superior Security through 1&1 Dual Hosting	✓	-	-
Programming Language Support	PHP5, PERL, Python, Ruby, Zend	PHP5, PERL, Python, Ruby on Rails	PHP5, Python, Ruby on Rails, Zend
SSL Certificate	1 (forever)	1 (just initial term)	\$ 139.00 (per year)
Set-up Fee	\$ 9.99	-	-
Monthly Cost	\$ 9.99 6 MONTHS FREE*	\$ 11.99	\$ 29.13
Annual Cost	\$ 69.93	\$ 143.88	\$ 488.50

1&1 UNLIMITED
Package just

\$ 6.99 per month

Visit our website for more special offers.



1-877-GO-1AND1

www.1and1.com

* Offer valid through 10/31/2011. 12 month minimum contract term required. Other terms and conditions may apply. Visit www.1and1.com for full promotional offer details. Program and pricing specifications and availability subject to change without notice. 1&1 and the 1&1 logo are trademarks of 1&1 Internet AG, all other trademarks are the property of their respective owners. © 2011 1&1 Internet AG. All rights reserved.

First Look: Motorola's Superspeedy Droid Bionic

THE MOTOROLA DROID Bionic dual-core 4G phone (\$300 with a two-year Verizon contract) has finally arrived. The phone's TI OMAP dual-core processor paired with Verizon's



THE DROID BIONIC'S widgets are resizable, and they permit scrolling.

4G LTE network makes for one fast phone. But the Bionic falls short in display and call quality, making its high price tag seem a bit unreasonable.

When you pick up the Bionic, you'll immediately notice its high-quality feel and sturdy construction featuring a soft, dark-gray rubberized battery cover and a Corning Gorilla Glass face. Measuring 5.00 by 2.63 by 0.43 inches, the Droid Bionic is the slimmest LTE phone available on Verizon. It weighs 5.6 ounces.

The 4.3-inch qHD (Quarter High Definition) display wasn't as sharp as a 960-by-540-pixel screen should be. Facebook profile images looked a bit grainy, with a slight bluish tint. I could also see a grid of dots—even without zooming in.

The Droid Bionic runs the latest version of Android, 2.3.4 (Gingerbread), as well as Motorola's custom-built MotoBlur widgets, which are resizable and scrollable. An app called ZumoCast lets you remotely access files on your PC without uploading or syncing them. For storage, you get 1GB of RAM, 16GB of on-board memory, and a 16GB MicroSD card.

I noticed no lag or stuttering as I flipped through menus. The browser loaded Web pages quickly over Wi-Fi and 4G. Call quality over Verizon's network was uneven. My friends' voices sounded hollow and blown out, and I had to adjust the volume on most calls. But my voice came through nicely.

Motorola says that the Droid Bionic offers 650 minutes of talk time and 200 hours of standby, and takes 3.5 hours to obtain a full battery charge. We haven't yet tested these claims.

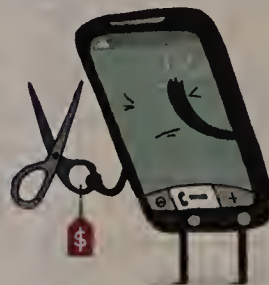
The Droid Bionic's 8-megapixel camera isn't the best I've seen, but my indoor and outdoor shots had nice sharpness, color accuracy, and brightness. Video capture was good, too.

—Ginny Mies

BRIEFS

Sony Backup Battery for Home Appliances

Sony has announced that it will sell a large power pack to run home appliances when the electricity goes out. The boxy device is just over a foot high and can run a 40-inch LCD TV for about 2.5 hours or charge a smartphone 30 times, the company says. Initially priced at ¥150,000 (\$2000), the unit will eventually be available internationally as well as in Japan. The power pack takes about 6 hours to charge and yields about 300 watt-hours on a full charge. It relies on lithium ion batteries and should last for ten years of daily use, Sony says.



Sprint Hikes Its Fee for Early Termination

In mid-September, Sprint raised its early-termination fee for smart devices (smartphones, tablets, netbooks, and laptops) from \$200 to \$350. Every major carrier prorates the fee based on how many months remain in the contract, a practice that the FCC is looking into. Higher ETFs follow a trend: Providers don't hike rates, but they alter the structure of their plans to increase costs for consumers.

Kindle Lets You Ask Authors

A new Kindle feature called @author lets readers ask authors questions while reading a Kindle book or visiting an Amazon Author Page. Brevity is essential, however, as Kindle-based questions are limited to 100 characters. The @author program is in beta release, with such well-known writers as Susan Orlean (*The Orchid Thief*) and Robert Kiyosaki (*Rich Dad, Poor Dad*) participating.



RIM Tests Music Service

Research In Motion is testing a cloud-based music service with its BlackBerry Messenger, to be offered commercially later this year. The service will allow users to build a "personal music profile" of up to 50 of their favorite songs on their phones, from a catalog of "millions of songs." Music can be cached to smartphones for offline listening, allowing users to access songs even when they don't have wireless coverage, RIM said in a statement.

WHY PAY MORE FOR .COM?

--- HURRY! OFFER ENDS 10/31/2011 --- HURRY! OFFER ENDS 10/31/2011 --- HURRY! OFFER ENDS 10/31/2011 ---

BEST VALUE!

	1&1 [®]	GoDaddy [®]	Network Solutions [®]
.com	\$9.99	\$11.99	\$34.99
ICANN Fee	Included	\$0.18	Included
Private Domain Registration	FREE!	\$9.99	\$9.99
Annual Cost	\$0.99* first year, then \$9.99	\$22.16	\$44.98



YOUR PRIVACY IS IMPORTANT. WE AGREE.

That's why at 1&1, all domains come with FREE Private Domain Registration to protect your name, address, phone number and e-mail from spammers and identity thieves.



1-877-GO-1AND1

www.1and1.com

* \$0.99 special offer is valid through 10/31/2011. Price is valid for the first year only. After first year, standard pricing applies. Private domain registration is not available for .us, .co, and .ca domains. Visit www.1and1.com for full promotional offer details. Program and pricing specifications and availability subject to change without notice. 1&1 and the 1&1 logo are trademarks of 1&1 Internet AG, all other trademarks are the property of their respective owners. © 2011 1&1 Internet AG. All rights reserved.

GEEKTECH

Do It Yourself With Arduino: What It Is, How to Get Started

Arduino microcontrollers are popular in DIY circles. Here's how to put one to good use.

YOU MAY KNOW that the Arduino microcontroller is an open-source electronic circuit board that lies at the heart of many DIY projects, from robotics to art and just about everything in between.

But what makes Arduino so cool and versatile? And what can you do with it?

To find out, I put those questions to Limor Fried, better known online as Lady-

ada, a cofounder of Adafruit Industries—a site that sells kits, tools, and accessories geared toward DIYers.

Ladyada says, "It's the glue people use to connect tasks together. The best way to describe an Arduino is with a few examples. Want to have a coffee pot tweet when the coffee is ready? Arduino. Want to have a Professor X Steampunk wheelchair that

speaks and dispenses booze? Arduino. Want to make a set of quiz buzzers for an event out of Staples' Easy Buttons? Arduino."

Since Arduino is sold under a Creative Commons Share-Alike (CC-SA) license, you can alter the original Arduino board or its programming and release it to the public, if you do so under the same CC-SA license. This policy has yielded plenty of variations of the original Arduino board, such as Gameduino (a board made for

DIY gaming) and Teagueduino (essentially an Arduino board assembled in a kit to help people learn how to program it).

Making It Work

Before you start messing with an Arduino board, you'll need to learn how to program one. Ladyada suggests a number of resources to help you get your bearings:

"A lot of people use my free tutorials on my personal website [find.pcworld.com/72277]. I have six lessons

MySocialNetworkFriends_Incl

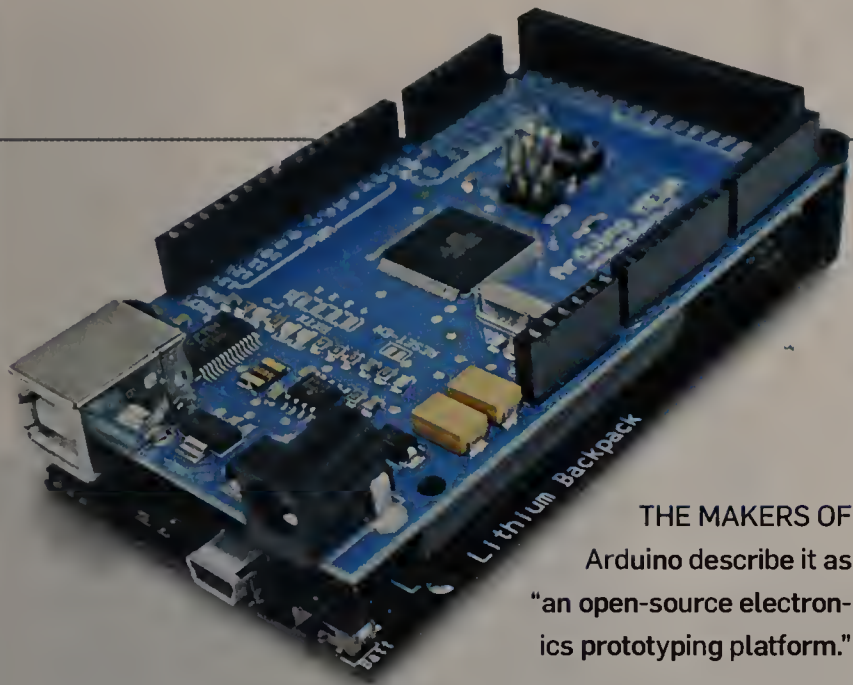
It's more than just data. It's your life.

Your social media content, photos, music, passwords and financial info. It's your Stuff and no one protects it in more places than Norton. Learn how at ProtectYourStuff.com



SECURITY | BACKUP | MOBILE | LIVE HELP

© 2011 Symantec Corporation. All rights reserved. Symantec, the Symantec Logo, the Checkmark Logo, Norton, and "Protecting the stuff that matters" are trademarks or registered trademarks of Symantec Corporation or its affiliates in the U.S. and other countries. Other names may be trademarks of their respective owners.



THE MAKERS OF Arduino describe it as “an open-source electronics prototyping platform.”

altogether, and many people over the years have said that they started their journey there. Also, there are some great books; two of my favorites are *Getting Started with Arduino* by Massimo Banzi and *Practical Arduino* by Jon

Oxer and Hugh Blemings. The free open-source Arduino IDE (how you program Arduinos) also has tons of code examples and libraries. “Next up are Hackerspaces for in-person learning and workshops and last (but not


least) the amazing Arduino online community. You can check out the Arduino forum [arduino.cc/forum] or Adafruit forums [forums.adafruit.com] and see thousands of people helping each other and sharing code! It's a wonderful community and very inclusive of beginners!”

For additional inspiration on what to make with your Arduino kit, follow geeky technology blogs (such as *PCWorld's* own GeekTech) that showcase outstanding hacks; and check out Freeduino (freeduino.org) for a listing of handy tips when you're fine-tuning the micro-

controller. Instructables (find.pcworld.com/72278) and Make's blog (find.pcworld.com/72279) also have good Arduino sections. If your idea or project could prove to be beneficial to other people, drum up some support for it on Kickstarter.com.

If you are looking for an affordable way to begin programming cool robotics and other projects, Arduino is clearly a great place to start.

—Elizabeth Fish ●

 Visit the GeekTech blog at go.pcworld.com/geektech for the latest in hacks, tips, and hardware news.

udingMomUnfortunately.com

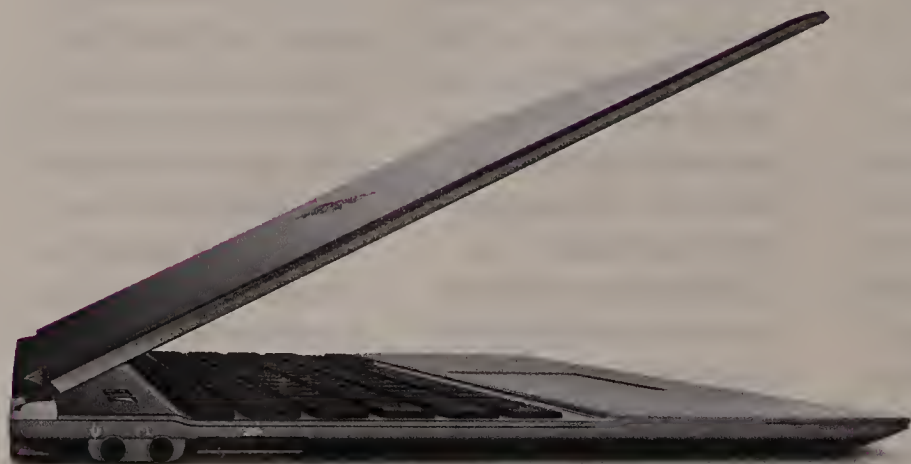
Protecting the Stuff that matters.™



Norton
by Symantec

Staff Picks

NEW PRODUCTS THAT HAVE OUR EDITORS DROOLING



Toshiba Portege Z830

The first Ultrabook to come from Toshiba, this superlight, superthin laptop sports a 0.63-inch profile when closed. It weighs 2.5 pounds and will be available for less than \$1000. With an extra-rigid chassis and instant-on technology, this lightweight laptop gives the MacBook Air a run for its money. find.pcworld.com/72267





**HP TopShot
LaserJet Pro M275**

HP's powerful printer can scan small objects and post the images directly to the Web, or scan business cards directly into your PC's address book. And the LaserJet Pro M275 can print wirelessly from anywhere you can get an Internet connection. find.pcworld.com/72269



Canon PowerShot S100

Equipped with a DIGIC V image processor, the PowerShot S100 can snap photos at the astonishingly brisk rate of 8 photos per second, without sacrificing image quality. Need to shoot 1080p HD video on the fly? This camera has you covered. find.pcworld.com/72268

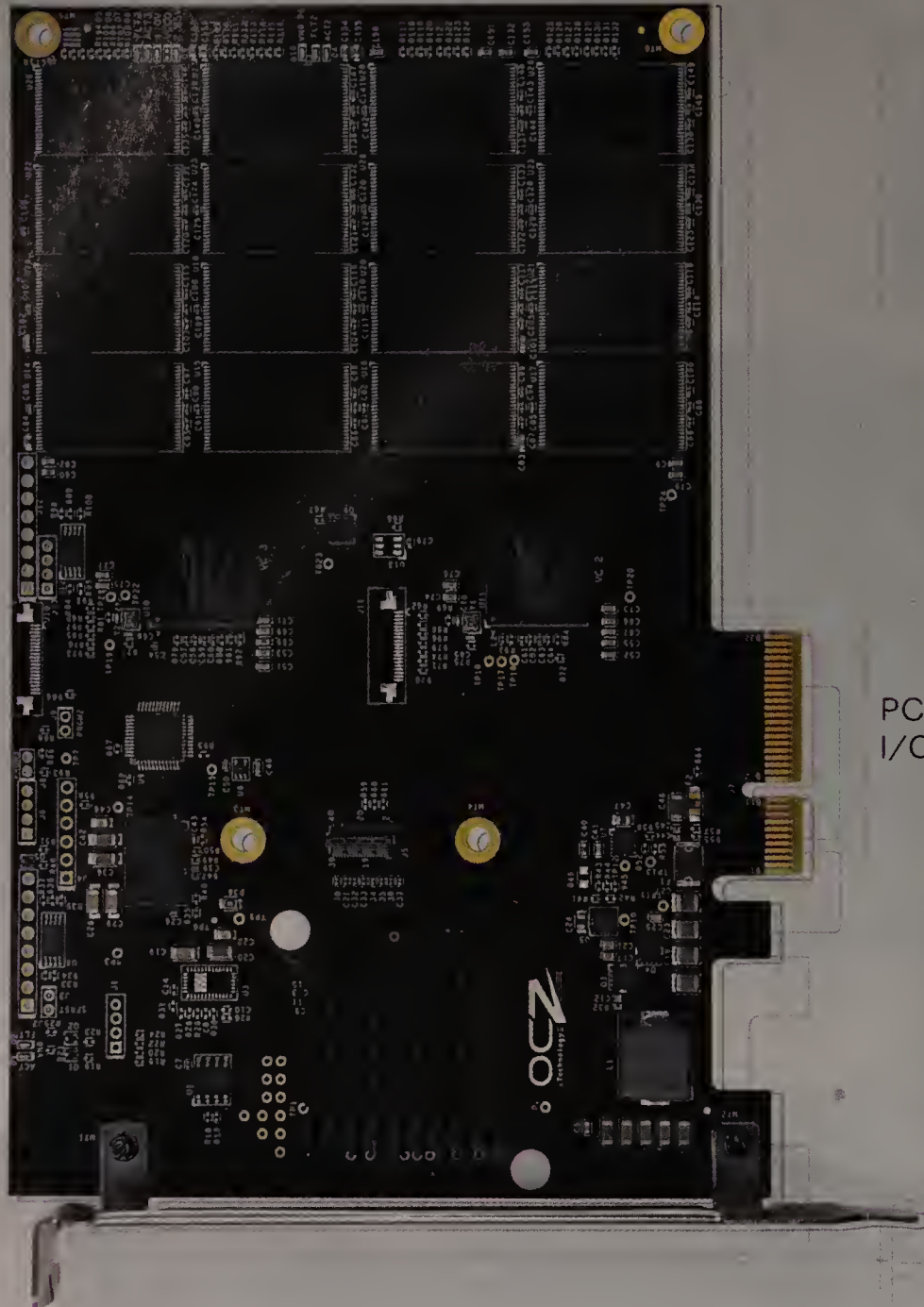


AT&T Mobile Hotspot Elevate 4G

For such a petite mobile hotspot, this device packs a punch. The Hotspot Elevate 4G takes advantage of AT&T's brand-new 4G LTE network to deliver data speeds that should be ten times as fast as those on the service's current HSPA+ network. find.pcworld.com/72270

RevoDrive 3

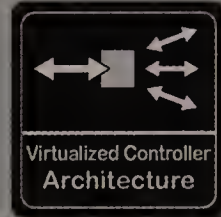
BOOTABLE PCIe SOLID STATE DRIVE



Designed for multithreaded workstation applications

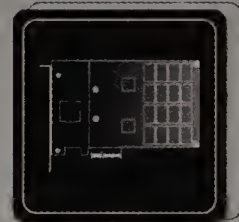
- audio/video editing
- graphic design
- scientific/supercomputing

3X faster than SATA III and outperforms all other SSDs in its class



Leverages proprietary VCA 2.0 (Virtualized Controller Architecture) Technology

PCIe Interface: Eliminates I/O and bandwidth bottlenecks



Easy-to-deploy, single card solution

Largest capacity in its class



Bringing You Up to Speed

Read up to 1500 MB/s · Write up to 1300 MB/s · Random Write 4KB: Up to 230,000 IOPS

RevoDrive 3 Solid State Drives are more than just fast. Offering unbeatable bandwidth and advanced features with OCZ's SuperScale storage accelerator and Virtualized Controller Architecture (VCA 2.0) enhance your workstation capabilities with unique benefits that not only improve performance but reduce the burden on host resources. With consolidated SMART support, effortlessly monitor, analyze, and report device attributes. With ample capacities up to 960GB in a single-card solution, isn't it time you brought your data storage up to speed?



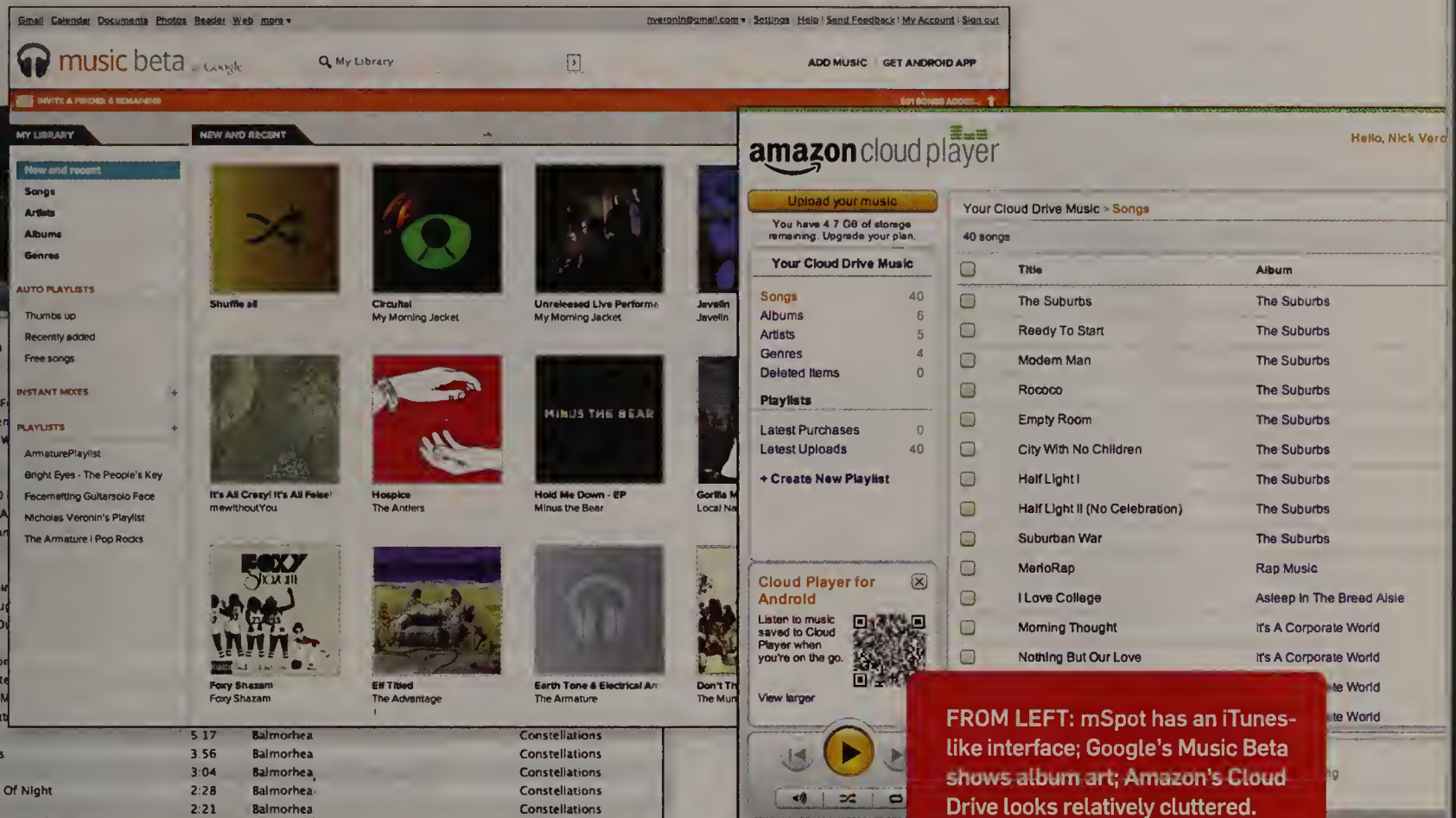
the SSD experts!

Available at:

-
- newegg.com amazon.com buy.com microcenter.com ncix.com tigerdirect.com

*based on RevoDrive 3 X

Consumer Watch



FROM LEFT: mSpot has an iTunes-like interface; Google's Music Beta shows album art; Amazon's Cloud Drive looks relatively cluttered.

Park Your Music in the Cloud

Amazon, Apple, Google, and others offer services that let you store your music library on the Web. Here's a comparison.

BY NICK VERONIN

WANT MUSIC ON the go? You can, of course, upload tracks from your PC to your iPod or smartphone—but you can listen to them only when you have that device. For access from any Internet-connected gadget, you need an online music locker.

Such cloud services are fundamentally different from music-streaming sites like Grooveshark, Rdio, and Spotify. While cloud storage sites let you upload and stream your own music, streaming services such as Rdio let you play any music in the service's catalog for a monthly fee. Those services offer more choice, but are also generally more expensive.

So, if you mainly want access to your own tunes anywhere, which service is best? Here are four major contenders.

Amazon Cloud Drive: If you're looking for a cloud service that can do more than just organize and play back your music, Amazon's Cloud Drive (find.pcworld.com/72220) may be for you.

With its accompanying Cloud Player, Cloud Drive can certainly function as your jukebox in the sky, but it can also double as a Dropbox replacement—a remote server for storing all your digital media, including videos and images.

Its major limitation is that if you want to access your music through an iPhone or iPad app, you can't: Cloud Drive uses Flash, a platform that Apple shuns. And if you plan to use Cloud Drive as the host for all your cloud-based storage, you'll have to fork out some extra cash. You get the first 5GB for free, and then storage starts at 20GB for \$20 per year.

Another drawback: Cloud Drive has the least appealing user interface of the services I looked at by far—it's very cluttered.

Apple iCloud: Apple's service (find.pcworld.com/72221) is rolling out for free to all devices that have iOS 5, making the music on your desktop iTunes client accessible on your iPod, iPhone, and iPad. And music you download to your mobile device will also show up on your desktop iTunes client. You get 5GB of storage for free, including any apps, photos, or videos you want to store in your cloud cache, and you can pay for an upgrade to 10GB starting at \$20 per year. However, if you're an Android fan, don't hold your breath for an iCloud app.

Google Music Beta: Google Music ([invite request at find.pcworld.com/72222](http://find.pcworld.com/72222))

pcworld.com/72222) gives users a generous amount of server space for free. Users may upload up to 20,000 songs (Google limits accounts by song count, not gigabytes). The clean and elegant interface displays album art much as Windows Media Player does.

One of Google Music's coolest features has to be its "Instant Mix," which analyzes the musical characteristics of a chosen song and then constructs a 25-song mix from your library based upon the way the selected song sounds.

But Google Music has no iPhone or iPad app, so if you want to run it on your iOS device, you must do so through the browser, a clunky process, as is uploading individual albums.

mSpot: You may not have heard of mSpot (mspot.com), but it's a very useful cloud music player that is easy to use and set up, and it works on just about any device you'd want to own, as well as on any browser.

Those familiar with iTunes will immediately feel at home with mSpot's user interface, which makes setting up a collection relatively painless. You can upload music files in three tiers of quality, which mSpot calls "good," "better," and "best" (and which correlate to bit rates of 48, 64, and 96 kbps).

mSpot has only two storage plans. The free option gives you 5GB of server space (about 4000 songs) and access to your music through its app on only one other mobile device. The paid plan, which costs \$4 a month, gets you 40GB of storage space (about 32,000 songs) and access to your music through the app on five devices.

A final word: Remember that streaming music can be a data hog, eating through your wireless carrier's data cap more quickly than you may expect. In addition, streaming music is only as good as your Internet connection, so you might want to keep a backup playlist on your hard drive to avoid being caught without some good tunes.

SKEPTICAL SHOPPER

Is Discontinued Tech a Good Deal?



MEGAN GEUSS

What are the risks of buying cheap gadgets, such as a \$99 TouchPad, that the manufacturer has abandoned?

WHETHER IT'S THE HP TouchPad, Apple's white MacBook, Dell's Adamo, or even Microsoft's Kin (okay, scratch that, you wouldn't take a Kin if even they were free), people are often tempted to buy discontinued tech because it's so darn cheap. After all, you're getting the same hardware for which you

would have paid hundreds more a week earlier, so it must be a good deal, right?

Not necessarily. Just because it's on sale doesn't mean it's worth the price.

For starters, usually you'll miss out on manufacturer updates to the gadget's software. Not only does that rob you of fixes for problems, but it also makes your gadget insecure. Granted, hackers are unlikely to spend much time trying to exploit the weaknesses of unpopular devices. But it's still wise to remember that the lack of updates will shorten the product's period of usefulness and security.

Also, discontinued tech may not have much (or any) customer support, if the issuing company folds.

While you can still go to the Genius Bar if your white MacBook

turns wonky, most companies phase out support for discontinued products a few months after production ceases. If you're particularly good at solving gadget problems, this may not concern you. (Note: Our GeekTech blog recently wrote about apps for the HP TouchPad, called the iFixit TouchPad guides, that might help you through repairs without customer support; see find.pcworld.com/72223.)

Finally, even though some people made a quick buck by immediately reselling their \$99 TouchPads for two or three times as much, after the initial buying frenzy these misfit toys have little resale value, and you're likely to recycle that tablet in a year or so. Plus, few developers will put much energy into creating apps and accessories for it, so it might be a somewhat undesirable gift.

That said, if buying discontinued products makes only a small dent in your budget, and you can make peace with such a product's cons—no updates or support, no resale value, and so on—then it may be worth the investment. But if you want a product that you'll love and use, and be able to keep for a decent amount of time, it may be best to save your money and wait for the right item to come along.

deals.woot! Log In community
Hi are you new? Start here.

deals → hp touchpad 16gb (\$99) 32gb (\$149) selloff...

88
VIP
+10%
20

HP TouchPad 16GB (\$99) and 32GB (\$149) Selloff - Starts 8/20

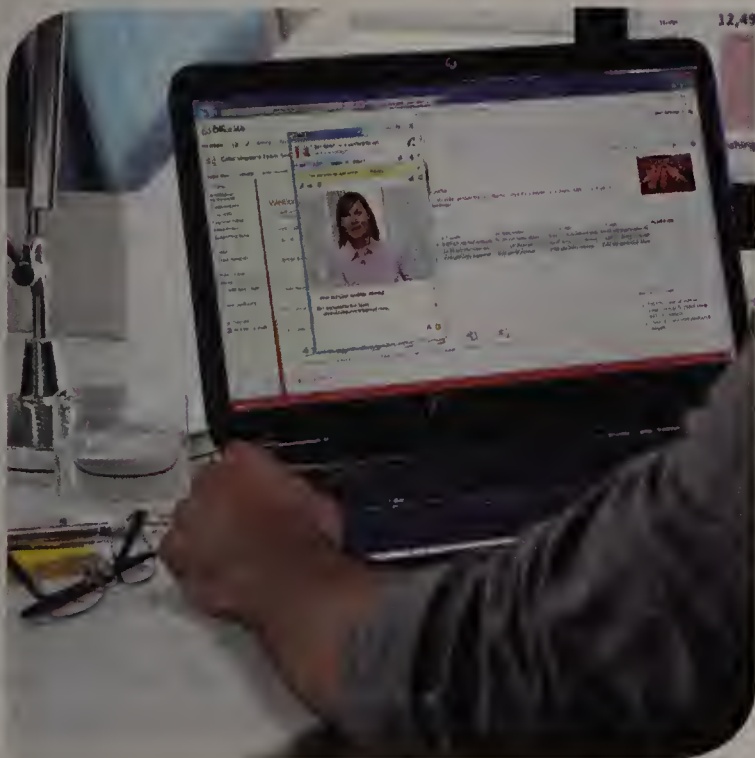
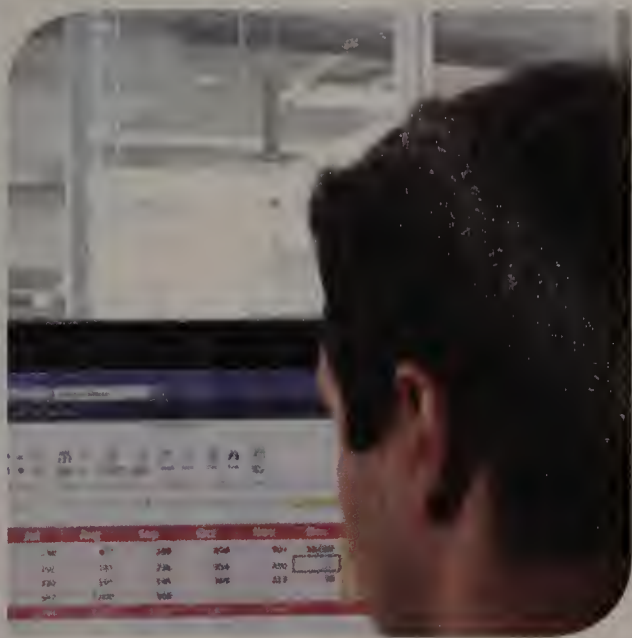
HERE'S THE DEAL! HP recently announced TouchPads are being discontinued, and retailers can't get rid of stock, thus the price cuts. Don't be surprised to see retailers match these prices (Best Buy, Amazon). Best Buy in Canada has already slashed their prices on these tablets. BB Canada Link, which ends 8/22/2011:
<http://www.bestbuy.ca/en-CA/product/hewlett-packard-hp-16gb-touchpad-with-wi-fi-16gb-wifi/10173116.aspx?path=24ea74e36d1cbe4ce76fdd5a9f3298cfen02>

tags: electronics touchpad

I want one! @ shopping.hp.com

DEAL SITES HAVE been offering the HP TouchPad at its \$99 fire-sale price—but it still may not be a good deal.

Microsoft



Meetings from a laptop.
File sharing in the cloud.
Closing deals by videoconference.
It all works together.

Introducing Microsoft Office 365. Collaborate in the cloud with Office, Exchange, SharePoint, and Lync videoconferencing. **Starting as low as \$10 per user per month. Begin your free trial now at Microsoft.com/office365**



Scan tag with a smartphone to learn about the Office 365 free trial.

Download the free scanner app at <http://gettag.mobi>

Microsoft®
Office 365

ON YOUR SIDE

I RECENTLY PURCHASED an HP Pavilion DM-4 notebook PC from Office Depot. I had hoped to use it while traveling, and the battery life listed in the technical description was 6.25 hours. But after I fully charged the battery, it lasted just 2 hours with very little activity, and the unit's power-saving mode improved battery life only a little. After I called both Office Depot and HP, an HP service agent conducted a remote battery test and found no problem with the battery or the BIOS. The HP service agent, unable to get more battery life out of my notebook, told me that someone with more authority would call me back. I still haven't received a call, and my calls to HP give me nothing but the runaround. Can you help?

—Victor Abraham, Gautier, Mississippi



LEAH YAMSHON

OYS responds: After we got hold of another HP customer service agent, that agent contacted Abraham and sent him a replacement battery to try. When this replacement showed no improvement in battery life, the company agreed to buy back the laptop. The HP representative concluded that the machine's hardware was probably malfunctioning, and refunded Abraham his money.

If you choose to purchase an item based on one or two appealing features, take a look at both user reviews and professional product reviews beforehand and see if you can find any comments about the functionality of those features.

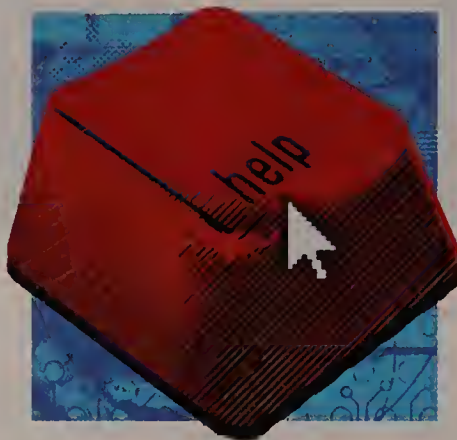
Reviews for this laptop model generally rate the battery life as lasting around 4 to 5 hours instead of the promised 6.25, but it's clear that this particular machine, for whatever reason, was not performing up to even those standards.

Problems With MyISPFinder.org

In our September column, we recommended MyISPFinder.org as a search tool to help you find high-speed Internet service providers in your area, but we've since received a few reader complaints about this website. One of those readers, Grafton Asher of Banks, Alabama, reports that MyISPFinder.org directed him to companies that don't actually deliver service to his community—for example, when Asher contacted Centurylink, an ISP provider listed for his town, a representative told him that his home was too far from the signal source.

Although we didn't experience similar problems when conducting our initial research, the website's purpose is compromised if it doesn't provide reliable information; for this reason, *On Your Side* can no longer recommend the site as a source. Check out alternatives such as Movearoo.com or TheISPGuide.com.

✉ Have you run into a problem involving customer service, a warranty, a rebate, or the like for your tech gear? Email us at onyourside@pcworld.com.



Your Future Friends, Predicted

RESEARCHERS AT CAMBRIDGE University in Britain have developed a new approach to suggesting friends on social networks, an approach that looks at the places you visit most to determine not only who your next friends will be, but where they'll be.

Social networks such as Facebook and LinkedIn already hand out friend suggestions, using the friend-of-a-friend method—if you know me, you'll probably know and like my friends, too.

Although these predictions can be pretty accurate, researchers want to take the idea a step further. Using information from Gowalla, one of the first social networking services that allowed people to "check in" to places using geolocation data, the Cambridge team gave each hangout location a weighted value based on how conducive the environment was to social interaction.

For instance, an airport or a high-traffic bus stop wouldn't score huge points, but a college-town laundromat or a cozy bar (or a combination of those two—the very definition of awesome) would, and people who checked in at the same locations could be better potential friends.

In the end, discovering friends through geolocation is perhaps the only way to deftly sift through what is, so to speak, a crowded party and find new friends—buddies that you could actually hang out with in real life, too.

And this kind of reexamination of "friend" suggestions apparently turns out to be in line with the future of location-based apps like Gowalla and Foursquare. Cambridge University's study could well be paving the way for social media's next big steps.

—Brennon Slattery ●

You
move.

It
adapts.

NEW Bose® Bluetooth® headset Series 2
Adjusts to the noise around you. Automatically.



Only the Bose Bluetooth headset Series 2 has Adaptive Audio Adjustment technology so you can effortlessly hear calls with a new level of sound quality – even as noise levels change. Plus, an exclusive noise-rejecting microphone system helps callers hear less of the distractions around you, including wind and noise. So your voice sounds more natural. A well-balanced design and soft StayHear® tip let you wear it comfortably for hours, while intuitive controls make it easy to use. This headset also enables A2DP streaming. No other Bluetooth headset offers all this. Discover the difference for yourself.



Scan to learn more

To order or learn more: Bose.com/mobile
888-500-9846, ext. 3248

©2011 Bose Corporation. The Bluetooth® word mark is a registered trademark owned by Bluetooth SIG, Inc., and any such use by Bose Corporation is under license.

BOSE
Better sound through research

FIRE UP YOUR SYSTEM AND LET IT BLAZE!

PATRIOT
MEMORY

LIGHTNING FAST

99.98mm

SATA III

PYRO

240GB

2.5" Solid State Drive
SATA III 6Gbps

RoHS COMPLIANT
FCC CE
MADE IN TAIWAN

UP TO 550 READ

UP TO 515 WRITE

85K IOPS

PATRIOT
MEMORY

For true performance you can feel,
the Patriot Memory Pyro SSD
provides almost instantaneous
access to data files and dramatically
cuts boot and load times by as much as 50%.*

*results based on internal testing.



Buy.com

NCIX.com



amazon.com



TigerDirect.com

COMPUSA.com

MICRO CENTER
computers & electronics

WWW.PATRIOTMEMORY.COM

©2011 Patriot Memory® LLC All rights reserved. The Patriot Memory logo are trademarks of Patriot Memory LLC. Other products and company names mentioned herein are for informational purposes only and may be trademarks of their respective owners.



www.facebook.com/patriotMEM



twitter.com/patriotmemory

Business Center

CRM Services for Small Businesses

Web-based services help manage customer-relationship contacts and tasks nearly anywhere you work.

BY SHIYUAN DENG

CUSTOMER RELATIONSHIP MANAGEMENT (CRM) tools can be challenging to use. And for many small businesses that lack the funds or resources to customize a CRM, using Salesforce is overkill. But a number of programs can help you manage your company's growing data files, without requiring hours of setup or expensive visits from your IT consultant.

These tools live on the Web, so you can access them via Web browser from nearly anywhere, regardless of your OS.

Zoho CRM

Approaching Salesforce in power and scope, Zoho CRM offers a solid platform for managing customer support, opportunities, inventory, leads, and marketing efforts, including email campaigns. Features include word processing, database functions, collaboration, and project management. In addition, you can purchase third-party applications.

You can send email from within Zoho CRM, using POP3, a pretty good way to keep conversations organized. Plug-ins let you sync data with Microsoft Outlook and Intuit QuickBooks.

For all its feature-richness, however, I found Zoho CRM difficult to set up and implement. The program relies heavily on jargon to describe features and functions. And unfortunately, due to confusing instructions, I managed to import only 7 of my 869 Google Contacts successfully.

Price: Free for up to three users; larger \$12-per-user-per-month and \$25-per-user-per-month packages also available.

Pros: Full-service CRM; great breadth and feature-specific



INSIGHT.LY'S PIPELINES FEATURE lets you associate various unique actions with each step in a linear series of repetitive tasks.

support; generous array of third-party apps; Android-, iPhone-, and iPad-compatible; dedicated mobile website; low cost.

Cons: Difficult for CRM novices to set up and maintain.

Use if: You want a full-service CRM, or if you have support staff to set up and maintain Zoho CRM for your company.

Landslide

With a great blend of features and support, Landslide blows rivals away in ease of setup and use. Its help section distinguishes between feature support and setup support, which is enormously useful. The smart FAQ system is a lifesaver.

This CRM doesn't skimp on powerful features. It is the only service in our roundup that offers syncing with Google products, as well as with data in QuickBooks and in Microsoft Outlook (including email, contacts, and tasks). One of Landslide's many positives is that it fits into an existing framework developed around other programs.

For CRM newcomers who are unfamiliar with the terminology but who still need a program with features approaching those of Zoho CRM, Landslide is a great, cost-effective option.

Price: Starts at \$29 per user per month for up to five users, with \$49 and \$79 options for additional users and features. >>

Pros: Full-service CRM program; easy to set up and use; syncs with Google apps, Microsoft Outlook, and QuickBooks; Android-, iPhone-, and iPad-compatible; dedicated mobile website.

Cons: Relatively high price.

Use if: You want a full-service CRM program with excellent usability.

Insight.ly

This Google Apps add-on integrates with several Google products, including Contacts, Docs, Calendar, and Gmail. That feature makes Insight.ly ideal for CRM if you run your business in Google Apps (as I do mine).

With full email integration, Insight.ly can supply you with a complete history of any given customer's interaction with your company. This capability frees you from having to perform the tedious task of importing and tagging messages.

Insight.ly also offers the valuable option to establish relationships between contacts and organizations, as well as other contacts. You can link related items, such as employees with employers, or email messages with projects, and tasks with opportunities.

The most useful feature I found was the option to create pipelines—linear sets of steps that you frequently repeat with new projects or opportunities.

Each stage in a pipeline can also have its own set of actions associated with it, which will allow you to streamline common tasks among all your employees.

Price: Free for up to three users and 200MB storage.

Pros: Excellent project management and business productivity tool; seamless Google Apps integration; usable interface; unbeatable price.

Cons: Doesn't include marketing campaigns or reports; lacks many key CRM features; no Android, iPhone, or iPad app; no dedicated mobile website.

Use if: You like the Google Apps interface, and your business needs don't warrant setting up a full-service CRM.

SIMPLY BUSINESS

Get Your Inbox Backlog Back to Zero



ROBERT STROHMEYER

Empty a bloated inbox in five steps without blowing off your obligations.

WHETHER YOU'RE RETURNING from a relaxing vacation or fighting the onslaught of daily messages, staring down the barrel of a loaded inbox can be a pretty demoralizing experience. But with a little bit of methodology and some intelligent technology, you can get your email inbox to empty in short order.

1. Create folders: Dealing with any overwhelming productivity crisis involves triage. In this case, I use folders to sort messages by priority level, labeling the folders "Today," "Tomorrow," and "This Week" to indicate three distinct levels of priority. Then I start sorting the glut of email.

2. Apply filters: Regardless of the mail client you use, it almost certainly includes a feature to let you filter the messages in your inbox, either by subject, by sender, or by domain. Use these

filters to find messages—such as ones from your boss—that are likely to need a response soon, and send them straight to the Today folder so you won't overlook anything major.

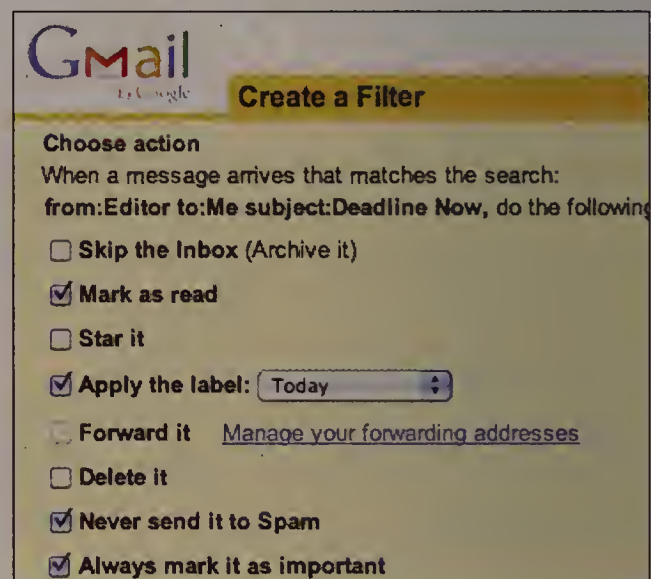
3. Kill the weeds: Before organizing messages in earnest, skim the subject lines for obvious rubbish, selecting them as you go and deleting them in bulk.

Then start culling, deleting anything that seems unlikely to be of use. If you aren't

sure about a message, archive it to get it out of the way; you can call it back up later with a quick search.

4. Skim and sort: Here's where the folders from Step 1 come in. Starting at the top of your inbox, with the most recent messages, skim the senders and subject lines to get a 1-second impression of where to file each message. If you need more context, open the message and glance at its contents, but don't give it more than a few seconds unless you think you can dispose of it for good in less than a minute. (If you can, deal with it appropriately and then move on.) For this step, Gmail users may want to increase the number of visible messages in the inbox.

5. Tackle the first folder: Your inbox should now be empty of old messages. For now, ignore any new messages, and start working on your Today folder. If you've created a Boss folder, consider checking it first, skimming for items that need an immediate response, items that need to go into the Today folder, and items that can be either deleted or pushed to the Tomorrow or This Week folders.



YOUR EMAIL CLIENT will enable you to filter incoming messages by subject, sender, or domain.

OFFICE ON THE GO

ThinkFree brings its full office suite to Android devices

In today's mobile workplace, productivity relies on fast, seamless access to office applications anytime from anywhere — and from multiple devices. But too often, mobile apps lack the robust features of their computer counterparts.

ThinkFree is remedying that, empowering mobile productivity with a full office suite for the Android market. ThinkFree Office Mobile, just one piece of a cross-platform solution, includes both cloud and local storage, and boasts native Microsoft Office compatibility.

And it's affordable. The full Android suite — which enables you to view, edit, and manage your documents, spreadsheets, and presentations — is being offered for a limited time for only \$9.99.

Two Androids Better Than One

ThinkFree offers two separate Android apps — a redesigned ThinkFree Office Mobile for Smartphone and the brand-new ThinkFree Office Mobile for Tablet. Their feature sets are nearly identical, but the experience of using them is, appropriately, very different.

Designed with small screen in mind, ThinkFree Office Mobile for Smartphone uses simple, yet attractive graphics. When you first launch the app, you get a screen that suggests a somewhat dark Manila folder. When you create a new document, spreadsheet, or presentation from that screen, ThinkFree shows you only a window into the new document. On a phone, seeing the whole page is less important than being able to read the text.

No such compromises are needed for ThinkFree Office Mobile for Tablet. The opening screen is sleek and handsome, with the manila folder coloring limited to the margins. You can still create a new file from here, but your options are greater. For instance, you get your choice of three different word-processing documents: two pre-formatted and one blank.

Words, Numbers, and Slides

Once you're working inside the word processor, you'll find some useful tools. When you search for a word or phrase, ThinkFree puts the found text inside easy-to-move brackets, allowing you to resize the selection for copying, deleting, and other tasks.

Pop-up windows let you format the font and the paragraph. The font-formatting options rival Word 2010 in their use of artistic



 thinkfree mobile

text effects such as outlines and shadows.

You can also insert shapes and images into your document. In fact, one icon takes you to the device's camera, from which you can take, and automatically insert, a photo. This feature, as well as the font-format pop-up, is found in the Spreadsheet and Presentation environments, as well.

But each application, of course, has other features all its own. The spreadsheet app allows you to easily switch between entering text, numbers, and formulas. The formula input screen can even pop up a menu of functions. Other spreadsheet-specific features help in sorting, merging, freezing, and unfreezing panes.

The Presentation environment offers a tool for formatting objects and adding notes.

All of these applications save your documents in Microsoft Office 2007/2010 formats as their default standards, so any document changes will be reflected in Word, Excel or PowerPoint.

ThinkFree Android also boasts a .pdf viewer, complete with a thumbnail pane that lets you view a list of pages. This is especially helpful on the small screen of a phone.

Ahead in the Cloud

ThinkFree's online environment gives you access to the documents you've stored on ThinkFree's server. You can download files from the server so you can view and edit them locally, and then upload them back to the server. You can also copy and move files among your online folders, delete them, and email them.

Files on Google Docs are also accessible from ThinkFree's Android apps.

Thinking Freely About Productivity

Recognizing the growing variety of devices with which workers access the cloud, ThinkFree has developed ThinkFree Online applications for iOS and Windows Mobile, as well. And their cloud-based version, My Office, works on any device with Java, a browser, and an Internet connection. You can use My Office for free, and that includes 1GB of storage on ThinkFree's servers.

The strength and versatility of these programs shouldn't come as a surprise. ThinkFree has been developing cloud-based productivity software for a decade. The company took its full-featured suite and optimized it for Android devices to deliver the best user experience, much the same way Apple transformed OS X's iWorks for iOS. But unlike Apple, ThinkFree products are modestly priced and compatible with the competition.

ThinkFree also offers a corporate network solution. ThinkFree Server Enterprise helps companies with the collaboration and management issues that arise from multiple people working on the same documents. Designed for easy setup (you can download and install the Enterprise suite as you would a regular program), this set of tools integrates a company's existing services, and adds mobile connectivity as well as private clouds.

For most people, however, ThinkFree Office Mobile for Smartphone and ThinkFree Office Mobile for Tablet, combined with ThinkFree's free online service, will provide all the tools needed to maximize productivity anywhere from any Android device. ■

TECH AUDIT

New Point-of-Sale Strategy Boosts Service and Security



ELSA WENZEL

TOOLS FOR RINGING up sales have come a long way since the cash register. Since emerging in the early 1990s, point-of-sale systems have evolved into hubs for business management, operations, and analysis. The past decade has seen the rise of touchscreen interfaces, customer self-checkout stations, and payment kiosks.

POS technologies on the horizon include smart RFID chips for tracking merchandise wirelessly, and thin-client checkout terminals that will feed data into a beefier central device. While such shifts will put pressure on retailers to upgrade their in-store systems, the rise of mobile e-commerce will challenge telecom providers to upgrade their infrastructure.

Near-field communication is the most highly touted upcoming development in POS payments. With NFC, shoppers can wave a smartphone over a scanner instead of swiping a credit or debit card's magnetic stripe through a card reader. With contactless technology, stores could analyze consumer behavior and access data during a transaction that would help them entice customers with tailored reward programs and coupons.

Google is entering the wireless payment realm by testing its Google Wallet service on the Sprint Nexus S 4G phone, which runs Android 2.3. Still, widespread adoption of NFC probably remains at least several years away in the future. Merchants and consumers must have supporting hardware—payment scanners and smartphones—to make the sale. NFC will likely become common at RadioShack, Walgreens, and other big-brand stores long before it reaches most small retailers.

Meanwhile, small businesses selling wares online or on the road

Many retailers still grapple with the basics of ensuring secure, efficient sales and inventory.

have an increasingly large array of choices for processing sales. PayPal rules e-commerce, while Google Checkout and other alternatives lag behind. The Square Card Reader and Intuit GoPayment smartphone attachments turn a handset into a mobile credit-card terminal, ideal for selling goods or services out of, say, a food truck or a mobile office.

Yet traditional POS systems remain a staple in shops. Big names in POS hardware include Dell, Fujitsu, HP, IBM, and MCR. On the software side, Epicor, IBM, Intuit, MCR, Microsoft, Oracle, and SAP are among the participants.

Software like Intuit POS, with its QuickBooks integration, may suit a local stationery shop, but small businesses with multiple outlets can simplify reporting, data analysis, and inventory management by centralizing their POS systems. ●

CASE STUDY

IT Pros Set Up Secure Retail POS System

CATHY JEAN SHOES sells women's shoes at 46 U.S. retail stores. Yet its clerks recorded transactions on paper sales slips, which store managers faxed to headquarters at the end of each workday. The company asked Virtual Graffiti's IT pros to help it improve its efficiency and data security.

Virtual Graffiti recommended centralizing orders and reporting, and transferring sales data securely over the Internet. To set up DSL Internet service at retail stores in shopping malls, Virtual Graffiti used existing wiring installed for landline telephones and credit-card transactions, securing the setup with a Sonicwall firewall. It remotely upgraded the existing firewall at Cathy Jean Shoes headquarters, remotely walked retail staff through configuring each store firewall, and configured the modems for direct connection to the firewall.

With secure Internet access in place, Virtual Graffiti next connected the POS systems to one another and to headquarters via a secure VPN tunnel. All data transmissions meet PCI Security Standards for transferring sensitive credit-card data.

The tech overhaul took several months and cost about \$15,000.

—Virtual Graffiti (www.virtualgraffiti.com)



RYAN LIPSCHITZ,
VP of engineering for
Virtual Graffiti.

I'm free Because I thinkfree



Easy, Simple, Fast. Office on-the-go.

Available now at Android Market. Find out more at mobile.thinkfree.com

Available in
Android Market
Android is a trademark of Google Inc.

O...M...G!!



ARE YOU SURE YOUR INTERNET SECURITY HAS YOU COVERED?

Here's a sad truth. Most people who suffer from an online attack actually have some kind of security software already running on their PC. It just isn't good enough. Trend Micro is different. We stop threats in the cloud before they reach you. So your entire digital life can be protected. What a relief.



Stop the Nooo! Face before it starts.
trendmicro.com/noface



© 2011 Trend Micro, Inc. All rights reserved. Trend Micro, Titanium and the t-ball logo are trademarks or registered trademarks of Trend Micro, Inc.

AVAILABLE AT:



Office DEPOT
Taking Care of Business

 **OfficeMax**

STAPLES

that was easy.™

Security Alert

How Hacktivism Affects Us All

Caught up in protests, young social activists are committing online crime.

BY ROBERT VAMOSI

IN DECEMBER 2010, nearly 3000 activists under the name "Operation Payback" attacked PayPal, MasterCard, and Visa, briefly knocking their websites offline and trying to prevent consumer access to online banking. The activists targeted the firms for severing ties with WikiLeaks, a repository for whistle-blower data that had recently posted secret communications from the U.S. State Department and other agencies. Nine months later about a dozen people—most aged 19 to 24—were arrested in connection with these denial-of-service (DoS) attacks, even as new attacks hit corporate, military, and government sites worldwide.

Online Vigilantes

Hacktivism, the use of digital tools for political ends, dates to 1999, when the loose hacker network Cult of the Dead Cow created "Hacktismo," a group that supported freedom of information and made software to circumvent Internet censorship. Lately the term refers to protests targeting organizations, governments, and law enforcement agencies, and the tactics include DoS attacks and leaks of confidential files. The fallout can affect millions of people.

"The generation that grew up with the Internet seems to think it's as natural to show their opinion by launching online attacks as for us it would have been to go out on the streets and do a demonstration," says Mikko Hypponen, chief research officer for F-Secure. "Online attacks are illegal while public demonstrations are not. But these kids don't seem to care."

"If you have a public presence, you are susceptible to attack—whether from a hacktivist or from...cybercrime," says Alex Eckelberry, vice president and general manager of security software for GFI Software.



Many attacked organizations have had some security, but not enough to withstand the protests, notes Dave Marcus, director of security research and communications for McAfee. "I think consumers should be asking the companies that hold their data, 'How well are you really protecting my info?'"

Collateral Damage

Today's hacktivism creates a high level of embarrassment. "This stuff gets out there and can be very public and quite dangerous, not only to the institution being hacked, but, by collateral damage, to innocents," Eckelberry says.

In protesting police actions on Bay Area Rapid Transit in San Francisco, someone posted the names, addresses, and cell phone numbers of about 2000 MyBART subscribers—ordinary riders—online. Attackers then posted the names and addresses of 102 BART police officers online. Real-world protests at BART stations accompanied both disclosures. >>

Sony is another example of hacktivism's effects. In 2010, teenage researcher George Hotz reverse-engineered the PlayStation 3 private key and posted it online, allowing almost anyone to rewrite the firmware and, by declaring themselves a developer on the Sony network, gain free access to online games. Sony sued Hotz. The company then suffered DoS attacks and a data breach, plus the exposure of 12 million customer credit card numbers. Sony has estimated its losses at \$173 million.

A few data breaches have inspired revolutions. For some Middle East protestors, WikiLeaks and the decentralized organization Anonymous created the environment that gave rise to the "Arab Spring" by posting government secrets.

About the same time, Anonymous spun off Lulz Security, or LulzSec, which allegedly attacked an affiliate of the FBI that was investigating Anonymous; later it attacked the Arizona Department of Public Safety in protest against Arizona's immigration policy. The group split off again to attack Rupert Murdoch's News International, ostensibly protesting alleged celebrity cell phone hacks.

No Upside to Hacktivism?

None of the security experts interviewed condone the recent actions of hacktivists. Random disclosures could endanger lives—a high price to pay for security awareness. Thousands of pages of confidential documents and personnel information have appeared on public sites this year. Law enforcement appears to be catching up, but slowly.

Already one former member of Anonymous regrets his involvement. In an interview with Cisco Security, "Sparky-Blaze" said he was "fed up with [Anonymous] putting people's data online and then claiming to be the big heroes." He goes on to say: "Getting files and giving them to WikiLeaks...that does hurt governments. But...posting the info of the people you fight for is just wrong."

BUGS & FIXES

Mozilla Squashes Browser Crash Bugs



JAMES MULROY

The latest Firefox corrects flaws. Plus: Adobe and Apple issue more updates.

IF YOU HAVEN'T grabbed the following updates from Mozilla, Adobe, and Apple already, be sure to do so: They repair some serious security issues.

Mozilla Fixes Firefox Crashes

Several vulnerabilities in Firefox 4 and 5 could allow an attacker to run code on your PC and cause the WebGL, JavaScript, and Ogg reader components of the browser to crash. (Mozilla says similar flaws are exploitable in Thunderbird 5 and SeaMonkey 2.2.)

Upgrade to Firefox 6.0.1 or later, which corrects those issues and also revokes stolen security certificates that could allow criminals to more readily fool you into visiting a fraudulent site. (For more on that problem, see find.pcworld.com/72227 and read "SSL Certificate Hack Victimizes Google, Others" on page 40). For the latest information on all Mozilla security releases, including the company's Thunderbird 6 and SeaMonkey 2.3 updates, visit find.pcworld.com/72226.

Adobe Patches Multiple Critical Vulnerabilities

Recently Adobe released security bulletins for Flash Player, Flash Media Server, Photoshop, and Shockwave (find.pcworld.com/72225). Multiple critical vulnerabilities could let attackers take control of affected systems or run malicious code.

One such flaw in Flash Player 10.3.181.36 and earlier for Windows, Mac, Linux, and Solaris, as well as 10.3.185.25 and earlier versions for Android, could allow the attacker to commandeer the affected system; Adobe says that as far as it is aware, this particular vulnerability is not being actively exploited. The bulletin and update also address flaws involving memory corruption, buffer overflow, and integer overflow. Adobe recommends updating to Flash Player 10.3.183.5 for Windows, Mac, Linux, and Solaris, and to 10.3.186.3 for Android.

Opening a malicious GIF file triggers another bug, in Photoshop CS5 and CS5.1 and earlier for Windows and Mac OS X. Lastly, the Adobe Shockwave 11.6.1.629 plug-in fixes memory corruption flaws that could lead to arbitrary code execution.

Apple Updates QuickTime

QuickTime 7.7 (for OS X 10.5.8, and Windows 7, Vista, XP SP2, and later) corrects flaws that could lead to application crashes or malware infections. You become vulnerable if you open a malicious JPEG2000 image or JPEG file in QuickTime. Apple also fixed a similar integer overflow issue. The company says that neither issue affects OS X Lion systems. Visit find.pcworld.com/72228 for further details.



SEIDIO

Smarter Mobile Accessories

Innocell Extended Life Battery



Protective Cases



Desktop Charging Cradle



An Accessory Ecosystem

Just as ecosystems consist of elements that work together to form a cohesive unit, Seidio's mobile accessories work together to enhance your professional life. Get through the day with our Innocell Extended Life Batteries and add one of our Extended cases that covers both your phone and battery. Then, drop everything into one of our convenient Desktop Cradles for a system in which everything works together the way it should.

www.seidio.com/pcworld



SCAN HERE

W W W . S E I D I O . C O M

SSL Certificate Hack Victimizes Google, Others

A DUTCH COMPANY that issues digital certificates used to authenticate websites said in late August that Google and several dozen other sites were affected by a security breach. The company, DigiNotar, is a Certificate Authority, which sells SSL (Secure Sockets Layer) and EVSSL (Extended Validation) certificates to legitimate site owners. But DigiNotar issued a certificate for the google.com domain, a mistake that could allow a skilled attacker to intercept email.

Google said on August 29 that the fraudulent certificate was used against people in Iran, but that a security feature in its Chrome browser detected the false certificate and warned users.

DigiNotar, a subsidiary of Vasco Data Security International, issued a statement saying it discovered the breach on July 19. Jochem Binst, Vasco's corporate communications director, says attackers created fraudulent certificates for "several dozen" websites. Most were revoked after their discovery. But the certificate for google.com, which was issued July 10, went live on August 28, Binst says. In its statement, Vasco says that it was notified by the Dutch Computer Emergency Response Team that the certificate had not been revoked; it was revoked on August 29, Binst says.

Currently it is not known how attackers breached the certificate-issuing infrastructure or how long they had access, but an audit is under way. DigiNotar, which primarily sells certificates to businesses in the Netherlands, is halting sales as it investigates. Vasco says in its statement that the subsidiary's revenue from issuing certificates was less than 100,000 euros (\$144,000) over the first six months of this year.

—Jeremy Kirk

PRIVACY WATCH

Protect Yourself From Supercookies



ALEX WAWRO

When good cookies go bad, don't panic. Keep your personal information private by taking these simple precautions.

EVERYBODY LOVES COOKIES, the little packets of code that websites leave in your browser. Users love them because they conveniently save names, passwords, and other data across sessions. Marketers love them because they identify visitors and can help to profile consumers' interests and browsing habits.

As long as you are a willing participant, this sort of tracking can be good; cookies allow retailers to adjust their sites to your needs, and ensure that you are likely to see relevant ads. The problem is that unscrupulous companies are using underhanded techniques to sneak cookies into your browser even when you don't want them. Fortunately, you can stop them with free utilities and simple precautions.

You can disable storage of standard HTTP cookies via your browser's privacy controls. But many sites now track users with data packages designed to circumvent a privacy filter. These souped-up packages, colloquially known as "supercookies," manage to store unique snippets of code and replicate that site's HTTP cookie in the event you block it or delete it from your browser.

Manually wiping supercookies is possible, but clearing out the bits of code that transform a regular cookie into a supercookie is a time-consuming process. For example, to shut out Flash cookies you need to visit the Adobe Website Storage Settings panel (find.pcworld.com/72191) and click *Delete All Sites* to clear out data stored in Flash, and then hop over to the Global Storage Settings panel (find.pcworld.com/72192) and disallow third-party Flash content from storing data on your PC in the future.

Free Downloadable Utilities to the Rescue

Taking the above steps, however, also ruins the look of sites that rely heavily on Flash. It's easier to use free utilities such as SlimCleaner (find.pcworld.com/72193) and CCleaner (find.pcworld.com/71543). The former's IntelliCookie feature lets you save cookies from trusted sites (such as that of your bank) and delete everything else. Mac versions of both tools are available, though OS X users may prefer the free Flash-cookie removal app Flush (find.pcworld.com/72194).

The final step is installing software that blocks supercookies from infesting your browser in the first place. Firefox extensions such as BetterPrivacy (find.pcworld.com/72195) and NoScript (find.pcworld.com/70213) let you determine which Web scripts may run. You can find out exactly how trackable you are by taking the free browser-fingerprint test at panopticklick.eff.org. Prepare for the test by taking the precautions above, and I think you'll be pleasantly surprised by the results. ●



900Mbps Rock Star

Wireless Networking



450Mbps Concurrent Dual Band Wireless N Router
TW-692GR

450
2.4GHz
Band

+

450
5GHz
Band

All
Gigabit Ports

Up to 70%
Energy Savings

TRENDnet launched the first 450Mbps wireless router and now the first 450Mbps Dual Band router that support 450Mbps on both bands at the same time.

The combination of the highest performance wireless and wired networking technology creates a seamless wireless HD home experience.

TRENDnet's proprietary GREENnet technology greatly reduces energy consumption of wired and wireless networking by up to 70%!

Win a Wireless N Gaming Adapter
 at www.trendnet.com/giveaway
 Enter Code PC World to Double Your Prizes



©2011 TRENDnet All rights reserved

Reviews & Rankings

Five Bare NAS Enclosures

Save money and choose your own hard drives to add to these bare (fill-'em-up-yourself) network-attached storage boxes.

USUALLY, YOU GET NAS (network-attached storage) boxes sold preconfigured with drives, but many firms offer the option to build your

NAS up yourself. They sell their NAS devices bare, so you can populate them with the capacity and the types of hard drives that you prefer.



DS211+

▲ SYNOLOGY DISKSTATION DS211+



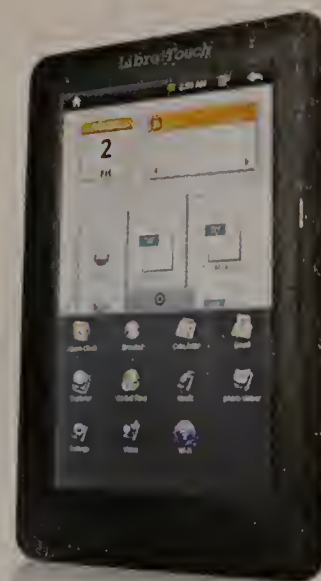
▲ QNAP TURBONAS TS-259 Pro+



51 ROKU 2 XS



59 MOTOROLA Photon 4G



60 ALURATEK Libre Touch

Adding your own drives allows you to employ any unused SATA drives you have, to use the brand or model of hard drive you wish, or to take advantage of the current lowest prices on drives, saving some dough over buying a box preconfigured.

All current and recent NAS enclosures use SATA. (Avoid any odd plain-ATA units.) Most NAS boxes have USB

2.0 ports for transferring data from flash or external drives, or for sharing printers across the network. More-expensive units offer eSATA and dual ethernet connections to increase speed and provide access if one connection fails, plus faster CPUs and better performance. Finally, USB 3.0 is just now starting to find its way into NAS enclosures.

Software is another major differentiator. NAS boxes run a version of Linux that you access and operate via a Web browser. Functionality varies dramatically. Products from manufacturers such as QNAP and Synology are more like small-business servers than simple storage devices, with built-in memory and a dedicated CPU. They offer website hosting, HTML-based multimedia access across the Web, video surveillance, syncing with other NAS boxes across the Internet, and additional advanced capabilities—and are often better for small businesses than a full Windows PC-based server. Remote access is also a common capability, as is media streaming (including the ability to act as an iTunes server).

Whichever box you choose, don't overbuy. Units vary drastically in speed, features, hardware, and price, but all those reviewed here can serve multimedia across a home network. We looked at five boxes: one each from D-Link, Patriot, and QNAP, and two from Synology.

D-Link ShareCenter DNS-325-110

Slide up the front panel of D-Link's \$300 ShareCenter DNS-325-110 two-bay NAS enclosure, and installing or swapping out a 3.5-inch hard drive is a snap. The current firmware doesn't support drives larger than 2.2TB, so you're limited to 4.4TB total until a firmware upgrade.

Beyond that, the DNS-325-110 is a capable NAS box with an attractive HTML interface and lots of software features. Multimedia perks include iTunes and Universal Plug and Play media serving; remote access is available over HTTP and FTP. The operating system is extensible via apps—such as a remote file browser—that you can download from D-Link's site.

The DNS-325-110 has one USB port on the back as well as a Copy/Unmount button. In addition, this D-Link >>

MORE ONLINE

For complete reviews of the NAS enclosures we reviewed for this story, go online to find.pcworld.com/72243.

PHOTOGRAPHS: ROBERT CARDIN



▲ D-LINK SHARECENTER DNS-325-110

box offers both RAID 0 and 1.

It proved a mediocre performer in my tests, however, averaging around 30 MBps writing to its internal hard drive, and about 49 MBps reading back. It had no problem streaming high-def video.

The D-Link DNS-325-110 is well engineered, with solid options. But I can't recommend it over the faster QNAP and Synology products reviewed below, with their superior feature sets and support for 3TB drives.

Patriot Javelin S4 Media Server

Patriot Memory's \$400 Javelin S4 Media Server is a four-bay NAS enclosure with a reasonable set of multimedia features. But it's pricey—and it lacks the maturity and finesse of comparable competing boxes such as those from QNAP and Synology.

The Javelin S4 has a rather plain, nondescript design: a white box with a hinged front panel that provides access to the four quick-change bays. Apart from

★★★★★ FAIR

ShareCenter DNS-325-110 D-Link

A solid but slow NAS box.

List: \$300

find.pcworld.com/72244

★★★★★ FAIR

Javelin S4 Media Server Patriot Memory

Good at media serving; expensive.

List: \$400

find.pcworld.com/72248

Bare Is Better

The bare NAS boxes reviewed here allow you to populate them with the capacity and types of hard drives that you prefer—or to take advantage of the lowest current prices on drives, thereby saving some dough.



▲ PATRIOT JAVELIN S4 Media Server

the plastic drive trays, the unit seems solidly built. Ports include two USB ones on the back for attaching storage devices and printers, plus a single eSATA port. The S4 supports 3TB drives, so its total possible capacity is a pretty hefty 12TB.

As its full name suggests, the S4's strength is in multimedia serving. It supports iTunes (and even Logitech's Squeezebox) and is DLNA certified. In my testing, it streamed everything I threw at it, including high-def video, smoothly—not unexpected with a unit that managed 58.8 MBps reading files off its disks. But the S4 is rather slow writing data, managing only some 27.7 MBps.

The S4 has the requisite feature set, as well as support for Web access to your files and Net downloads. However, the interface is nowhere near as simple as

that of QNAP, Synology, or most other rivals. Copying files one at a time? Painful.

The S4 is a solid, but imperfect, effort. At \$250, it might do. At the same price as the decidedly superior competition? No way.

QNAP TurboNAS TS-259 Pro+

If speed is what you're looking for in a two-bay NAS enclosure, QNAP's \$600 TurboNAS TS-259 Pro+ has speed in spades. Feature-packed, it sports dual gigabit ethernet connections for failover protection and better performance, and supports iSCSI as well.

The TS-259 Pro+ looks a bit old-school with its drive trays in full view (we like that), but it's solidly built compared with many competitors. It also lets you lock the drive trays, a feature aimed at business audienc-

es. The unit has a whopping five USB 2.0 ports for attaching more storage or a printer, and a one-touch copy button for quickly transferring the contents of USB drives.

Like the boxes from Synology, all of QNAP's enclosures run the same operating system, and that OS is every bit as feature-rich as Synology's.

QNAP provides DLNA-certified media serving, video surveillance, many forms of remote access, extensive backup and syncing capabilities, and much more. The QNAP OS, accessed via a Web browser, lacks Synology's slick interface, but that places it at only a slight disadvantage. Versus everyone else, it's light-years ahead.

I tested the TS-259 Pro+ with 2TB and 3TB drives installed as one 5TB volume. Even in this mode, the unit is *fast*. In my tests, it averaged



▲
SYNOLOGY DISKSTATION DS411SLIM

approximately 83 MBps writing data to its drives, and 65 MBps reading on my gigabit network. The read performance was only a little better than that of Synology's DS211+, but its rate of writing data onto its own platters is nearly twice as fast.

You pay dearly for this speed, but if you regularly back up a lot of data to your NAS box, it's more than worthwhile. And in features, you can't beat this box.

Synology DiskStation DS211+

The two-bay Synology DiskStation DS211+ is as feature-packed as two-bay NAS enclosures come. Not only is the box fast, but its easy-to-use DiskStation Manager 3.1 software provides Secure FTP and HTTP, a variety of media-serving features, rsync backup to other NAS boxes, iSCSI, video surveil-

lance, and much more.

The unit's pop-off face-plate that facilitates access to the drives is clever as well as handy, but the plastic trays and locking mechanisms seem penny-pinching for a fairly pricey box. So does the lack of a second ethernet port for failover and for increasing bandwidth.

DiskStation Manager 3.1 offers an interface that is like running Linux within a window. You can open, close, drag, and stack windows—all within your Web browser. The multiple views and windows make it much easier to get a handle on file operations and drive contents.

I tested the DS211+ with both a 2TB and 3TB drive installed. The unit averaged about 44 MBps writing data to its drives, and about 62 MBps reading on my gigabit network. That's good, but a tad slower writing than the

Synology DS411slim, though with 4-MBps faster reading.

The DS211+ retails for some \$400 or more. Cheaper, slower versions such as the plain 211 or 211j will be a better deal for average users who don't need top performance from their storage.

Synology DiskStation DS411slim

At about half the size of the average two-bay NAS enclosure, the four-bay Synology DiskStation DS411slim is a great option when you need a lot of storage capacity (up to 6TB) but have limited physical space. To achieve its compact form, the \$320 DS411slim simply uses bays designed for smaller, 2.5-inch drives. But this unit doesn't lack for power: It's every bit as capable as any other Synology box.

The *slim* in the DS411's name is a bit of a misnomer—it's small, but not skinny. Still, it will fit in places a normal NAS box won't, and using 2.5-inch drives saves power. It also has two USB 2.0 ports, one in front and the other in back. Its drives slide easily out the rear (but—my only complaint—the unit lacks a locking mechanism for the drives).

Synology's windows-in-a-browser DiskManager Station 3.1 operating system is the industry standard. Used on all Synology NAS enclosures, DiskManager is highly capable, with features like iTunes and DLNA-certified media serving; email and website hosting; remote

access through FTP, HTTP, FTPS, and HTTPS; and dedicated audio, photo, and download interfaces.

Synology's NAS units are ideal small-business servers, especially with their rsync syncing between NAS boxes.

I tested the DS411slim with 2.5-inch, 500GB drives. Configured in a RAID 0 array, the device averaged approximately 45 MBps writing data to its drives, and about 58 MBps reading from them during my hands-on tests on a gigabit network. That's quite fast (especially considering that these were 5400-rpm, 2.5-inch drives), and not much slower than Synology's DS211+.

The DS411slim is a great little unit, with emphasis on the words *little* and *great*.

—Jon L. Jacobi

★★★★★ SUPERIOR

TurboNAS TS-259 Pro+ QNAP

Very quick; feature-rich; pricey.

List: \$600

find.pcworld.com/72249

★★★★★ VERY GOOD

DiskStation DS211+ Synology

A feature-packed, fast 2-bay NAS.

Street: \$400

find.pcworld.com/72250

★★★★★ VERY GOOD

DiskStation DS411slim Synology

Very compact, capable, and fast.

List: \$320

find.pcworld.com/72251

Acer's Innovative 7-Inch Iconia Tab A100

THE 7-INCH TABLET category gets a new spin with Acer's Iconia Tab A100, the

first such tablet with Android 3.2 (Honeycomb). The A100 is available in 8GB (for \$330) and 16GB (for \$350) versions. An included MicroSD card slot lets you expand capacity by up to 32GB.

The 0.5-inch-thick, 0.92-pound tablet offers a 1GHz dual-core

Nvidia Tegra 2 CPU, 1GB of memory, and 802.11b/g/n Wi-Fi. Its Android 3.2 OS is

optimized to support different screen sizes. The A100 sports both a 5-megapixel rear-facing camera with LED flash, and a 2-megapixel front-facing camera.

Along the bottom edge (in portrait orientation), the tablet has a Micro HDMI port, docking connector, and Micro-USB port, flanked by stereo speakers. On the far right bottom is an AC power port. At the top a sturdily designed slot cover protects the MicroSD card slot.

I found the A100 well balanced and very comfort-

able to hold in one hand; and its display was a pleasure to look at, though the viewing angle wasn't great. Audio from the built-in speakers sounded reasonably good.

Acer says the tablet will last for up to 4.5 hours during 720p video playback.

—Melissa J. Perenson



THE ICONIA TAB A100 screen has a resolution of 1024 by 600.

★★★★ VERY GOOD

Iconia Tab A100 | Acer

Practical, feature-laden 7-inch tablet has rough spots in its OS.

List: \$350

find.pcworld.com/72229

The Greatest Accidental

It's more than just data. It's your life.

Your e-mails, music, social media content, passwords and financial info. It's your Stuff and no one protects it in more places than Norton. Learn how at ProtectYourStuff.com

SECURITY | BACKUP | MOBILE | LIVE HELP

© 2011 Symantec Corporation. All rights reserved. Symantec, the Symantec Logo, the Checkmark Logo, Norton and "Protecting the Stuff that matters" are trademarks or registered trademarks of Symantec Corporation or its affiliates in the U.S. and other countries. Other names may be trademarks of their respective owners.

IdeaPad K1 Rises Above the Android Tablet Fray

THE \$500 LENOVO IdeaPad K1 combines 32GB of storage, the Android 3.1 (Honeycomb) OS, a dual-core 1GHz Nvidia Tegra 2 CPU, and 1GB of memory. The front face is a 10.1-inch, 1280-by-800-pixel display, with a gener-

ous black border around it.

The IdeaPad measures 10.4 by 7.4 by 0.5 inches and weighs 1.65 pounds, making it too heavy to hold for long in one hand—despite the pleasing contours of its edges.

The IdeaPad's design favors a landscape orientation. A 2-megapixel front-facing camera is centered atop the display; a Micro HDMI port, a headphone jack, and a docking port run along the bottom edge; and power and volume buttons, a screen-



rotation lock, and a MicroSD card slot run along the left side. On the back, you'll find a 5-megapixel rear-facing camera with LED flash.

In a sea of Android tablets, the IdeaPad K1 makes a strong case for itself with usability enhancements and a snappy design. Drawbacks include poor speakers, the device's heft, and an annoyingly uncooperative MicroSD

THE IDEAPAD K1 comes with a black, white, or red plastic back.

card slot door; but Lenovo makes up for those inconveniences with useful preloaded apps, 32GB of storage, and an attractive price.

—Melissa J. Perenson

★★★★★ VERY GOOD

IdeaPad Tablet K1 | Lenovo

A snappy design and strong features make the K1 appealing.

Street: \$500

find.pcworld.com/72230

ReplyAll_OfAllTime.eml

Protecting the Stuff that matters.™



Norton
by Symantec

HP's Color Laser MFP Is a Bargain Only at First

FOR A MODEST \$350, the HP LaserJet Pro 100 Color MFP M175nw offers print/scan/copy/fax capabilities—and a lot of connectivity—in a compact, black package.

But poky print speeds (less than 11 pages per minute for plain text on plain paper) and costly toner are liabilities.

The output quality of the M175nw's color images and line-art scans ranged from competent to disappointing.

Paper-handling features include a 150-sheet input tray, a 50-sheet output tray, and a 35-sheet automatic document feeder for the MFP's letter-size scanner. Duplexing is manual only. The unit



THE M175NW ISN'T speedy, and it suffers from expensive toner.

lacks any media-card slots.

A 1200-page black cartridge costs \$50 (4.2 cents per page), while 1000-page cyan, magenta, and yellow

cartridges cost \$56 each (5.4 cents per page); a four-color page runs a steep 20.4 cents.

—Melissa Riofrio and Jon L. Jacobi

★★★★★ FAIR

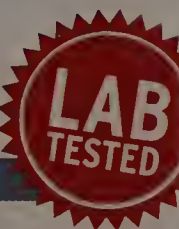
LaserJet Pro 100 Color MFP M175nw | HP

Pricy toner, slow performance undercut great connectivity.

List: \$350

find.pcworld.com/72231

Top 5 Color Inkjet Printers



MODEL	Rating	Performance	Features and specifications
1  Epson B-510DN \$599 find.pcworld.com/70029	★★★★★ VERY GOOD	<ul style="list-style-type: none"> Text quality: Very Good Photo quality: Good Tested speeds: 14.7 ppm text/ 3.4 ppm graphics 	<ul style="list-style-type: none"> USB, ethernet connectivity 50- and 150-sheet inputs, automatic duplexing One-year warranty
▶ An inkjet alternative to a color laser printer, Epson's B-510DN has several strengths: It prints quickly, is very cheap to use, and produces better photos.			
2  HP Officejet Pro 8000 Wireless Printer \$180 find.pcworld.com/64133	★★★★★ VERY GOOD	<ul style="list-style-type: none"> Text quality: Superior Photo quality: Very Good Tested speeds: 10.3 ppm text/ 4.2 ppm graphics 	<ul style="list-style-type: none"> USB, ethernet, wireless connectivity 250-sheet input, automatic duplexing One-year warranty
▶ Packed with useful features and built for speed, the small-business Officejet Pro 8000 is a very competitive printer. Its ink costs are amazingly low.			
3  BEST BUY HP Officejet 6000 Wireless Printer \$120 find.pcworld.com/63656	★★★★★ VERY GOOD	<ul style="list-style-type: none"> Text quality: Very Good Photo quality: Good Tested speeds: 7.4 ppm text/ 3.4 ppm graphics 	<ul style="list-style-type: none"> USB, ethernet, wireless connectivity 250-sheet input, automatic duplexing One-year warranty
▶ Reasonable speed, solid print quality, and a fairly sturdy design distinguish this small-office printer. HP's high-yield inks for this model are a great deal.			
4  Canon Pixma iP4920 \$100 NEW find.pcworld.com/72197	★★★★★ VERY GOOD	<ul style="list-style-type: none"> Text quality: Good Photo quality: Very Good Tested speeds: 8.9 ppm text/ 2.6 ppm graphics 	<ul style="list-style-type: none"> USB connectivity Two 150-sheet inputs, automatic duplexing One-year warranty
▶ The Pixma iP4920 offers good speed, solid print quality, and versatile paper handling; it can print on specially coated CD and DVD media, too.			
5  Epson WorkForce 60 \$130 NEW find.pcworld.com/72198	★★★★ GOOD	<ul style="list-style-type: none"> Text quality: Very Good Photo quality: Good Tested speeds: 12.9 ppm text/ 1.5 ppm graphics 	<ul style="list-style-type: none"> USB, ethernet, wireless connectivity 250-sheet input, automatic duplexing One-year warranty
▶ Though the WorkForce 60 has the speed, features, and reasonable replacement-ink costs that a small office needs, it falls a bit short in print quality.			

CHART NOTES: Prices are as of 8/29/11. ppm = pages per minute.



MORE ONLINE Visit find.pcworld.com/72272 to see in-depth reviews, full test results, and detailed specs for each printer on this chart.

Power up to win 1 of 7 APC™
BR700G Battery Back-UPS™
units (a \$130 value)!



Key Code
h132v

www.apc.com/promo
888-289-APCC x4951
FAX: 401-788-2797

Name: _____ Title: _____
 Company: _____
 Address: _____ Address 2: _____
 City/Town: _____ State: _____ Zip Code: _____ Country: _____
 Phone: _____ Fax: _____
 e-mail: _____

Yes! Send me more information via email and sign me up for the Uptime™ email newsletter. Key Code: h132v

What type of availability solution do you need? UPS: 0-16kVA (Single-phase) UPS: 10-80kVA (3-phase AC)
 UPS: 80+ kVA (3-phase AC) DC Power Networking Enclosures & Racks Air Conditioning Cables/Wires
 Monitoring & Management Line Conditioning Mobile Protection Surge Protection UPS Upgrade Don't Know

Purchase time frame? < 1 Month 1-3 Months 3-12 Months >1 Year Don't Know

You are (check one) Home/Home Office Business (<1000 employees) Large Corporation (>1000 employees)
 Government, Education, Public Organization APC Sellers and Partners





NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT # 36 WEST KINGSTON RI

POSTAGE WILL BE PAID BY ADDRESSEE



ATTENTION CRC: h132v
132 FAIRGROUNDS RD
PO BOX 278
WEST KINGSTON RI 02892-9920



Unbeatable power protection now beats energy costs, too.



APC
Legendary
Reliability™

Only APC Back-UPS delivers unsurpassed power protection *and* real energy savings.

Today's cost-saving Back-UPS

For years you've relied on APC™ Back-UPS™ to protect your business from expensive downtime caused by power problems. Today, the reinvented Back-UPS does even more. Its highly efficient design noticeably reduces energy use, so you start saving money the minute you plug it in. Only APC Back-UPS guarantees to keep your electronics up and your energy use down!

Unique energy-efficient features

Power-saving outlets automatically shut off power to unused devices when your computer and peripherals are turned off or on standby. Automatic voltage regulation (AVR) adjusts the undervoltages and overvoltages without using the battery. With our patent-pending AVR bypass, the transformer kicks in only when needed and automatically deactivates when power is stable. Plus, highly efficient APC designs reduce power consumption when power is good and extend runtimes when the lights go out. Together, these power-saving features eliminate wasteful electricity drains, saving you about \$40-50 a year. And managing today's Back-UPS couldn't be easier thanks to an integrated LCD that provides diagnostic information at your fingertips.

Trusted insurance for all your business needs

The award-winning Back-UPS provides reliable power protection for a range of applications: from desktops and notebook computers to wired and wireless networks to external storage. The reinvented APC Back-UPS is the trusted insurance you need to stay up and running and reliably protected from both unpredictable power and energy waste!

Keep your electronics up and your energy use down!

Back-UPS models are available with the features and runtime capacity that best suit your application, and many models have been designed with power-saving features to reduce costs.

The high-performance Back-UPS Pro series

High-performance Back-UPS Pro units deliver cost-cutting, energy-efficient features. Power-saving outlets automatically shut off power to unused devices when your computer and peripherals are turned off or on standby, eliminating costly electricity drains. (BR700G shown above)

The energy-efficient ES 750G

The ES 750G boasts innovative power-saving outlets, which automatically shut off power to controlled outlets when the computer plugged into the host outlet is deemed asleep, eliminating wasteful electricity drains.

- 10 Outlets
- 450 Watts / 750 VA
- 70 Minutes Maximum Runtime
- Coax and Telephone/Network Protection



The best-value ES 550G

The ES 550G uses an ultra-efficient design that consumes less power during normal operation than any other battery backup in its class, saving you money on your electricity bill.

- 8 Outlets
- 330 Watts / 550 VA
- 43 Minutes Maximum Runtime
- Telephone Protection



Enter to win one of seven Back-UPS BR 700G units (a \$130 value)!

Visit www.apc.com/promo Key Code h132v • Call 888-289-APCC x4951 • Fax 401-788-2797

APC™

by Schneider Electric

Create Your Own High-Definition 3D Video Content

TIRED OF HUNTING in vain for network 3D TV offerings? Then make content of your own with a 3D camcorder and a video-editing application such as Sony's \$100 Vegas Movie Studio HD Platinum 11.

The latest version of Sony's software adds stereoscopic 3D video editing.

You can edit native 3D footage from a 3D camcorder, or you can create somewhat effective 3D video from 2D

material. I found that the 2D-to-3D conversion worked best for simple effects such as adding 3D titles.

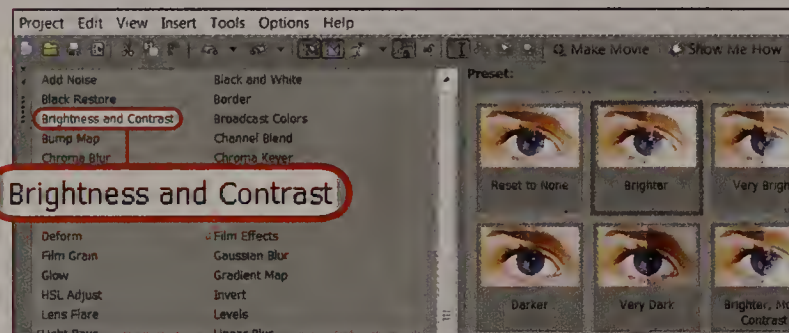
You can also export to YouTube's 3D format; and using the included DVD Architect Studio application, you can export 3D movies to Blu-ray.

Movie Studio HD Platinum 11 lets you edit in 720-50p, 720-60p, and 1080-24p HD video formats, but it won't import or export Flash files.

Despite lacking a clear design direction, Vegas Movie Studio HD Platinum 11 is a capable product at a very

reasonable price, especially if you're interested in creating 3D movies. It would be even better if Sony stripped out some of the features that are unnecessary in a consumer-grade product, and added better instruction.

—Alan Stafford



VEGAS MOVIE STUDIO HD Platinum 11's keyframe capabilities let you set the strength of various effects precisely to your liking.

★★★★★ VERY GOOD

Sony Vegas Movie Studio HD Platinum 11 | Sony

Powerful, low-cost video editor needs refinement, less clutter.

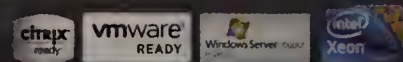
List: \$100

find.pcworld.com/72233

QNAP

TurboNAS TS-EC1279U-RP High-end SMB NAS Solution Redefined

- Quad-core processor, 4GB DDR3 ECC RAM, SATA 6Gb/s, and USB 3.0
- 10 Gigabit Ethernet-ready reaching over 1,000 MB/s and 100,000 IOPS
- Powerful yet affordable iSCSI and NFS for virtualization storage
- VMware® Ready, Citrix® Ready, and Microsoft® Hyper-V compatible
- All-in-1 NAS server featuring cross-platform sharing and backup



Full lineup for TS-x79 series



TS-EC1279U-RP/ TS-1279U-RP



TS-EC879U-RP/ TS-879U-RP



TS-1079 Pro



TS-879 Pro

QNAP offers a series of Intel-based NAS servers ranging from 2 to 12 bays.

For more details please visit www.qnap.com

QNAP SYSTEMS, INC.
www.qnap.com

QNAP may make changes to specification and product descriptions at anytime, without notice. Copyright © 2011 QNAP Systems, Inc. All rights reserved. ©QNAP is a registered trademark of QNAP Systems, Inc. All other brands, product names, and trademarks are the property of their respective owners.

Roku Web Streamer Adds Ability to Play Games

THE UPDATED ROKU media streamer, the \$100 Roku 2 XS, adds Bluetooth support and a MicroSD card slot, so you can use it for downloadable games. Out of the box, it lets you play Rovio's Angry Birds using nothing more

than Roku's newly enhanced, motion-sensing remote.

Streaming Web media to an HDTV via your home network's Internet connection remains Roku's biggest selling point. With 250-plus channels of content optimized for viewing on a big screen, and support for 1080p displays, the 2 XS is the easiest way to bring online material to your HDTV.

The new remote works somewhat similarly to a Nintendo Wii Remote controller:



ABOUT THE SIZE of a hockey puck, the black-and-silver 2 XS is Roku's smallest and most power-efficient media streamer to date.

You gesture at the screen to move the cursor. With Bluetooth, you need not maintain line of sight between the remote and the box. By the holiday season, Roku should offer at least two dozen new games that take advantage

of the enhanced remote's motion-sensing features.

One disappointment: The 2 XS does not support 5GHz Wi-Fi (the version of 802.11n that's backward-compatible with the earlier 802.11a).

—Yardena Arar

★★★★★ VERY GOOD

Roku 2 XS | Roku

Device extends smooth, pleasing media streaming via Bluetooth.

List: \$100

find.pcworld.com/72232



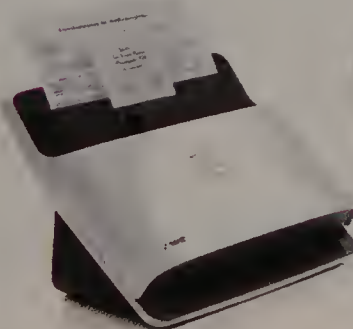
STOP LIVING WITH A PAPER MONSTER

Neat® helps you get rid of the Paper Monster with powerful, yet easy-to-use software and scanning solutions.

- ▼ **Scan** and organize receipts, business cards and documents into a digital filing cabinet
- ▼ **Create** expense reports, IRS-accepted tax reports, digital contacts and more
- ▼ **Export** data to PDF files, Excel®, Outlook®, QuickBooks®, Quicken®, and TurboTax® **

NeatDesk
DESKTOP SCANNER +
DIGITAL FILING SYSTEM

NeatReceipts
MOBILE SCANNER +
DIGITAL FILING SYSTEM



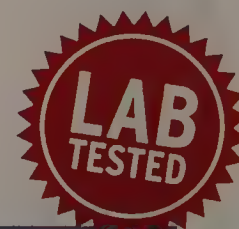
neat

ORDER TODAY

visit www.neat.com/pcpdf OR CALL 866-395-3540

USE PROMO CODE: PCPDF

*with purchase **Not all features are available for Mac version



Top 10 Mainstream Desktop PCs

MODEL	Rating	Performance	Features and specifications
1  Origin Genesis Z68 \$2464 NEW find.pcworld.com/72273 ▶ If you're looking for power and performance—plus superb on-screen image quality—you'll find them in Origin's latest monster desktop.	★★★★★ SUPERIOR	<ul style="list-style-type: none"> WorldBench 6 score: 228 WorldBench 6 rating: Superior Overall design: Superior Graphics: Perfect 	<ul style="list-style-type: none"> 4.3GHz Core i5-2500K 16GB RAM; 1.2TB storage Nvidia GeForce GTX 560Ti (two) Blu-ray Disc drive
2  Maingear F131 Super Stock \$2224 NEW find.pcworld.com/72200 ▶ Maingear's fast, powerful F131 Super Stock gives PC enthusiasts plenty of ports, plus lots of tinkering room for upgrades and add-ins.	★★★★★ SUPERIOR	<ul style="list-style-type: none"> WorldBench 6 score: 215 WorldBench 6 rating: Superior Overall design: Very Good Graphics: Perfect 	<ul style="list-style-type: none"> 4.5GHz Core i5-2500K 8GB RAM; 1.2TB storage Nvidia GeForce GTX 560Ti (two) DVD-RW drive
3  Maingear Vybe Super Stock \$1849 find.pcworld.com/71642 ▶ The Vybe Super Stock boasts an impressive mix of speed and affordability, neatly tucked inside a cleverly designed case.	★★★★★ SUPERIOR	<ul style="list-style-type: none"> WorldBench 6 score: 207 WorldBench 6 rating: Superior Overall design: Superior Graphics: Superior 	<ul style="list-style-type: none"> 4.8GHz Core i5-2500K 8GB RAM; 1TB storage Nvidia GeForce GTX 570 DVD-RW drive
4  BEST BUY Micro Express MicroFlex 25B \$849 find.pcworld.com/71643 ▶ This PC is packed to the brim with power and features, but its smallish hard-disk capacity prevents it from moving higher on the chart.	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 188 WorldBench 6 rating: Superior Overall design: Very Good Graphics: Very Good 	<ul style="list-style-type: none"> 4.1GHz Core i5-2500K 4GB RAM; 300GB storage AMD Radeon HD 6870 DVD-RW drive
5  HP Z210 CMT \$2312 NEW find.pcworld.com/72201 ▶ HP's workstation has the power to work through heavy graphics and 3D tasks, if you're willing to pay a bit extra for optimized hardware.	★★★★☆ VERY GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 150 WorldBench 6 rating: Good Overall design: Superior Graphics: Fair 	<ul style="list-style-type: none"> 3.3GHz Xeon E3-1240 8GB RAM; 1TB storage Nvidia Quadro 2000 DVD-RW drive
6  HP Pavilion Slimline s5-1060 \$830 NEW find.pcworld.com/72202 ▶ The slender Pavilion Slimline s5-1060 boasts solid computing and a few fancy features, such as a Blu-ray Disc player, to boost its appeal.	★★★★☆ GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 145 WorldBench 6 rating: Good Overall design: Superior Graphics: Poor 	<ul style="list-style-type: none"> 2.9GHz Core i5-2310 6GB RAM; 1TB storage AMD Radeon HD 6450 Blu-ray Disc drive
7  Dell Optiplex 990 SFF \$1920 NEW find.pcworld.com/72203 ▶ The business-friendly Optiplex 990 SFF combines superb design and strong general performance; the AMD graphics are a weakness.	★★★★☆ GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 152 WorldBench 6 rating: Good Overall design: Superior Graphics: Poor 	<ul style="list-style-type: none"> 3.4GHz Core i7-2600 4GB RAM; 1TB storage AMD Radeon HD 6450 Blu-ray Disc drive
8  V3 Move 3DS \$1099 find.pcworld.com/71644 ▶ The Move 3DS delivers excellent 3D game performance in a tiny package, but the single-minded focus on gaming limits its potential.	★★★★☆ GOOD	<ul style="list-style-type: none"> WorldBench 6 score: 118 WorldBench 6 rating: Fair Overall design: Very Good Graphics: Good 	<ul style="list-style-type: none"> 3.82GHz Core i3-540 4GB RAM; 500GB storage Nvidia GeForce GTX 460 DVD-RW drive
9  Polywell Poly ITX-H6700 \$1199 NEW find.pcworld.com/72204 ▶ If you're looking for a compact, reasonably priced office desktop with decent performance, the Poly ITX-H6700 may be a good match.	★★★★☆ FAIR	<ul style="list-style-type: none"> WorldBench 6 score: 161 WorldBench 6 rating: Good Overall design: Good Graphics: Fair 	<ul style="list-style-type: none"> 3.4GHz Core i7-2600K 8GB RAM; 680GB storage Intel integrated graphics Blu-ray Disc drive
10  Dell Vostro 460 \$1163 find.pcworld.com/71645 ▶ The Dell Vostro 460 comes through with great general performance, but its reliance on integrated graphics may limit your flexibility.	★★★★☆ FAIR	<ul style="list-style-type: none"> WorldBench 6 score: 156 WorldBench 6 rating: Good Overall design: Good Graphics: Fair 	<ul style="list-style-type: none"> 3.4GHz Core i7-2600 4GB RAM; 500GB storage Intel HD Graphics 2000 DVD-RW drive

CHART NOTE: Ratings are as of 9/1/11.



MORE ONLINE Visit find.pcworld.com/72274 for in-depth reviews, full test results, and detailed specs for each desktop PC on this chart.

TP-LINK®

The Reliable Choice


LIMITLESS WIRELESS

450Mbps

Dual-Band Wireless N Gigabit Router

TL-WR2543ND



 Dual-Band solution of
2.4GHz or 5GHz

450 Mbps wireless 

Share your Storage device through the **USB port**

COMING SOON!

Find more TP-LINK products at:













 Find us on
Facebook
www.facebook.com/TPLINK

 Find us on
twitter
twitter.com/TPLINK

Follow us on Facebook and Twitter now to get updates on product promotions and exciting new products!

NTI Media Maker 9 Is Easy to Use, but Limited

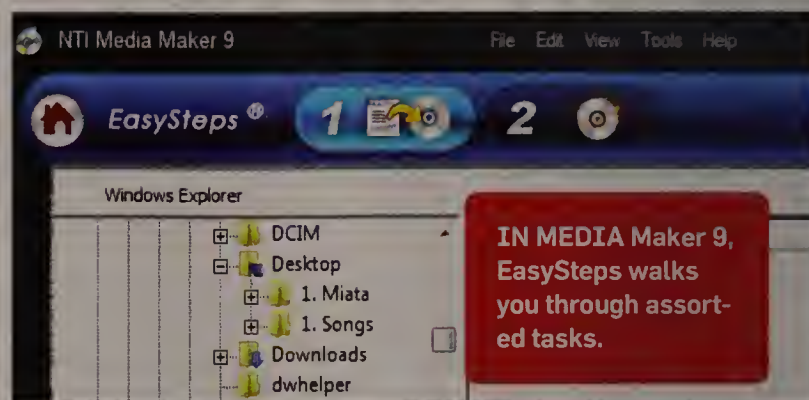
NOW OFFERING SUPPORT for Blu-ray movie discs, NTI's \$100 Media Maker 9 Ultimate HD Edition media-creation package is simple to use. It lags in file-format support, however, and its features are rough in some respects.

Most projects involve the wizard-like EasySteps. At the top are a few numbered buttons. Hover on one, and you'll see a tooltip explaining that step. The current step is highlighted, and you can jump between steps without restriction. The arrangement is easy to work with, yet it

doesn't get in the way if you know what you're doing.

The modules include apps for creating movie discs (CD, DVD, or Blu-ray), data discs, audio (both audio discs and MP3/WMA discs), and photo slideshows. (Oddly enough, the new BD Maker Blu-ray movie-creation app forgoes EasySteps, but it remains straightforward.) A cinematic feature for video and photos, courtesy of Muvee, stylizes output so that you can create professional-looking results with little effort.

The program doesn't seem



to offer a way to skip adding music. I didn't mind that limitation for photos, but on video I'd like to be able to stick with the already recorded audio. The software also has no preview function for your movie—you have to

burn the movie to see it.

Media Maker 9 Ultimate comes with several useful utilities. Foremost is DVD-Fit, which reduces the size of a DVD movie to fit on a single disc; this feature is handy if you want to fit a dual-layer



UNLIMITED HOSTING	\$1.89 per month
RESELLER HOSTING	\$12.99 per month
VPS HOSTING	\$14.99 per month
BUSINESS HOSTING	\$19.99 per month
SEO HOSTING	\$24.99 per month
DEDICATED HOSTING	\$189.99 per month

- »» FREE SITE BUILDER
- »» 3000+ TEMPLATES
- »» 24/7 SUPPORT (Level3)
- »» 99.9% Uptime
- »» 30 Days Money Back
- »» KVC SHIELD & GIGABIT Uplink
- »» 180 single click install scripts
- »» \$8.95 Domain (FREE PRIVACY)
- »» PHP, MYSQL, Frontpage, SSI
- »» FREE 50+ SEO Tools

Instant Setup & Fast Serve

Introducing



Protects against downtime
Prevent from memory leaks
Protects against DDOS
Protects against abusive users

GET YOUR HIGHEST UPTIME EVER
Tired of Downtime? Get the most uptime with kvcshield

hosting plans
Start \$1.89/months
Unlimited Space & Bandwidth

IPHONE Application
Available to download from iTunes

20% off with "PCWORLD"

DOMAIN REGISTRATION
with **FREE PRIVACY** for only \$8.95/year

Google **Free \$75 adwords coupon**

PCWORLD.KVCHOSTING.COM

Earn 45% with KVC HOSTING affiliate

Green Hosting & No Oversell

www.kvchosting.com









movie on a single-layer disc, for example. A separate app lets you burn DVDs you've ripped to your hard drive.

File-Format Issues

The suite's import file support is disappointing and varies between modules. It imports AVCHD for Blu-ray but not DVD. Also with DVDs, it understands MPG just fine and accepts some AVI files, but not some other types such as more-recent WMV, MP4, or Xvid. It doesn't seem to understand DirectShow, either, so you can't expand support by installing codecs. This may be a deal-

killer for knowledgeable users and video enthusiasts.

At a lower price, I can see a niche for Media Maker 9 Ultimate. At \$100, though, it bumps up against capable competition. I would also like to see more professional-looking templates for the DVD and Blu-ray menus.

—Jon L. Jacobi

★★★★★ FAIR

Media Maker 9 Ultimate HD Edition | NTI

Simple media creation suite lacks some advanced features.

List: \$100

find.pcworld.com/72241

NTI Shadow 5: Simple, Continuous Backup

NTI SHADOW 5 (\$40) is actually two programs in one, offering both continuous plain file backup and sync. You can define backup, sync, and sync-with-initial-merge jobs. Once you've figured out that you need to define the source, select the destination (or sync partner), and then save the job, Shadow could not be easier to use. I do wish that it had an animated progress indicator; lacking one, Shadow sometimes seems to stall.

All jobs can run continuously as files change, or at 1-minute to weekly intervals. Shadow performed well with all three job types, and didn't seem to affect the performance of my laptop in the least. Despite an interface quirk or two, it's a very effective backup utility.

—Jon L. Jacobi

★★★★★ GOOD

Shadow 5 | NTI

Real-time, continuous backup and syncing don't get any easier.

List: \$40

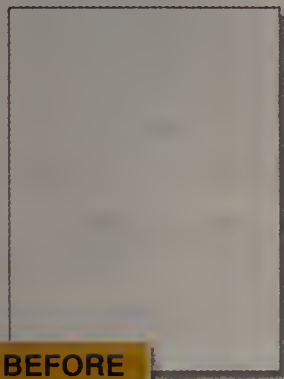
find.pcworld.com/72242

Works alone or with QuickBooks®, Quicken®, Peachtree and more

VersaCheck® X1 PLATINUM

Ultra-Secure Finance and Check Creation Software

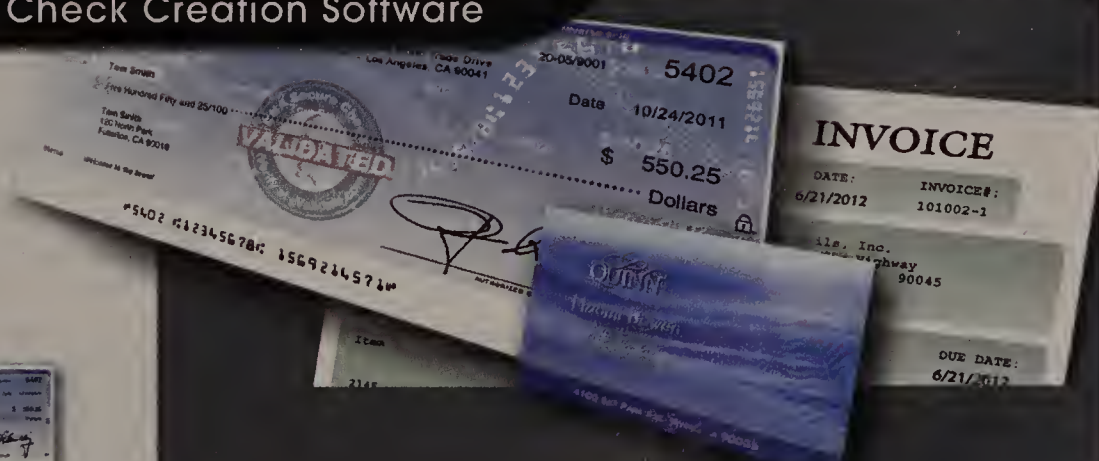
Create and Print
Verified Checks!



BEFORE



AFTER



50-80% SAVE
or more on checks!

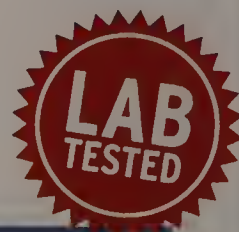
DNA Secure™

Financial Account Safeguards

- Protects users from account theft
- Lets users create verified checks
- Receive alerts of checking account activity!
- Allows others to safely accept your checks
- Avoid credit card finance charges!

MRSP \$99.99*

*Visit VersaCheck.com/pc2 for details or call 303-532-4738



Top 10 All-Purpose Laptops

MODEL	Rating	Performance	Features and specifications
1  BEST BUY Dell XPS 15z \$1500 NEW find.pcworld.com/72206	 SUPERIOR	<ul style="list-style-type: none"> • WorldBench 6 score: 134 • WorldBench 6 rating: Superior • Overall design: Superior • Tested battery life: 5:19 	<ul style="list-style-type: none"> • 2.7GHz Core i7-2620M • 15.6-inch widescreen • 5.6 pounds • 75GB hard drive
<p>▶ If every Dell laptop were this good in build quality and design, the company's reputation would be completely restored.</p>			
2  Maingear EX-L 15 \$2455 NEW find.pcworld.com/72207	 SUPERIOR	<ul style="list-style-type: none"> • WorldBench 6 score: 142 • WorldBench 6 rating: Superior • Overall design: Superior • Tested battery life: 2:52 	<ul style="list-style-type: none"> • 2.2GHz Core i7-2720QM • 15.6-inch widescreen • 7.0 pounds • 500GB hard drive
<p>▶ In the EX-L 15, Maingear offers a heavy but attractive 15-inch gaming notebook with superb performance in leading-edge games.</p>			
3  Dell Latitude E6420 ATG \$3136 NEW find.pcworld.com/72208	 VERY GOOD	<ul style="list-style-type: none"> • WorldBench 6 score: 136 • WorldBench 6 rating: Superior • Overall design: Very Good • Tested battery life: 11:18 	<ul style="list-style-type: none"> • 2.7GHz Core i7-2620M • 14.0-inch widescreen • 6.5 pounds • 128GB solid-state drive
<p>▶ The E6420 has all the power you'd want in a rugged business laptop, but its weight and high price make it overkill for mainstream users.</p>			
4  Acer Aspire TimelineX 5830TG \$799 NEW find.pcworld.com/72075	 VERY GOOD	<ul style="list-style-type: none"> • WorldBench 6 score: 116 • WorldBench 6 rating: Very Good • Overall design: Superior • Tested battery life: 8:17 	<ul style="list-style-type: none"> • 2.3GHz Core i5-2410M • 15.6-inch widescreen • 5.5 pounds • 640GB hard drive
<p>▶ Angularly stylish, with battery life for miles, the 5830TG is also a good performer. This laptop gives you a lot of bang for your buck.</p>			
5  HP Pavilion dv6 \$799 NEW find.pcworld.com/72074	 VERY GOOD	<ul style="list-style-type: none"> • WorldBench 6 score: 117 • WorldBench 6 rating: Very Good • Overall design: Superior • Tested battery life: 4:41 	<ul style="list-style-type: none"> • 2.3GHz Core i5-2410M • 15.6-inch widescreen • 5.7 pounds • 640GB hard drive
<p>▶ HP's dv6 is a classy-looking (but slightly bulky) laptop that's packed with a good combination of features for the price.</p>			
6  Lenovo ThinkPad T420 \$1249 NEW find.pcworld.com/72209	 VERY GOOD	<ul style="list-style-type: none"> • WorldBench 6 score: 124 • WorldBench 6 rating: Very Good • Overall design: Very Good • Tested battery life: 8:37 	<ul style="list-style-type: none"> • 2.5GHz Core i5-2520M • 14.0-inch widescreen • 5.2 pounds • 500GB hard drive
<p>▶ The staid countenance of the T420 belies this workhorse ThinkPad's outstanding performance, reliability, and features.</p>			
7  Toshiba Satellite M645-S4118X \$1100 NEW find.pcworld.com/72210	 VERY GOOD	<ul style="list-style-type: none"> • WorldBench 6 score: 117 • WorldBench 6 rating: Very Good • Overall design: Very Good • Tested battery life: 4:24 	<ul style="list-style-type: none"> • 2.3GHz Core i5-2410M • 14.0-inch widescreen • 5.0 pounds • 640GB hard drive
<p>▶ Like an unmarked highway patrol car, this all-purpose laptop sports unassuming looks that hide its true power.</p>			
8  Digital Storm xm15 \$1029 NEW find.pcworld.com/72211	 VERY GOOD	<ul style="list-style-type: none"> • WorldBench 6 score: 123 • WorldBench 6 rating: Very Good • Overall design: Very Good • Tested battery life: 3:50 	<ul style="list-style-type: none"> • 2.0GHz Core i7-2630QM • 15.6-inch widescreen • 5.8 pounds • 500GB hard drive
<p>▶ The xm15 compromises on performance a little, but the end result is a surprisingly light, though generic, 15-inch laptop.</p>			
9  Lenovo ThinkPad Edge E420 \$719 NEW find.pcworld.com/72076	 VERY GOOD	<ul style="list-style-type: none"> • WorldBench 6 score: 98 • WorldBench 6 rating: Good • Overall design: Superior • Tested battery life: 5:05 	<ul style="list-style-type: none"> • 2.1GHz Core i3-2310M • 14.0-inch widescreen • 4.7 pounds • 500GB hard drive
<p>▶ Fans of ThinkPad keyboards should like this affordable, not-too-heavy model; gamers and number crunchers ought to look elsewhere.</p>			
10  HP EliteBook 8460p \$1199 NEW find.pcworld.com/72212	 VERY GOOD	<ul style="list-style-type: none"> • WorldBench 6 score: 124 • WorldBench 6 rating: Very Good • Overall design: Very Good • Tested battery life: 5:20 	<ul style="list-style-type: none"> • 2.5GHz Core i5-2520M • 14.0-inch widescreen • 5.5 pounds • 320GB hard drive
<p>▶ HP's latest EliteBook won't win any awards for looks, but it does come with a good display and keyboard for business travelers.</p>			

CHART NOTES: Ratings are as of 8/29/11. Tested battery life is expressed in hours:minutes. Listed weights do not include the power adapter.



MORE ONLINE Visit find.pcworld.com/69884 to see in-depth reviews, full test results, and detailed specs for each laptop on this chart.

GOING NOWHERE FAST WITH YOUR PHONE COMPANY?



SWITCH TO TIME WARNER CABLE BUSINESS CLASS FOR A SOLUTION THAT KEEPS YOUR BUSINESS MOVING FORWARD.

It is hard to get ahead when you don't have the right tools to make your business succeed. So we have experts who work with you to tailor the right mix of reliable Internet, Phone and Cable TV solutions just for your business. Take a step forward—call Time Warner Cable Business Class today.

INTERNET | PHONE | CABLE TV | MOBILE | ETHERNET

GET 7Mbps SECURE INTERNET

FOR \$**87.95**
PER MO.
FOR 3 YRS

Add 10GB online backup for only \$5.95 per month.

Call 877.759.2191 to order or
visit TWCBC.COM/NORTHEAST

 TIME WARNER CABLE
Business Class

You first. The technology follows.®

Offer expires 12/31/11 and is available to new business customers only with a three-year agreement. Includes 7Mbpsx768Kbps Internet service with the purchase of Internet Security. Actual speeds may vary. Additional charges apply for taxes and fees. Standard installation rates and construction costs (if applicable) apply. Offer not transferable and may not be combined with any other offer. Early termination fee may apply. Offer not available in all areas. Some restrictions apply. Time Warner Cable Business Class is a trademark of Time Warner Inc. Used under license. ©2011 Time Warner Cable. All Rights Reserved.

A competency-based education means more bandwidth for life.



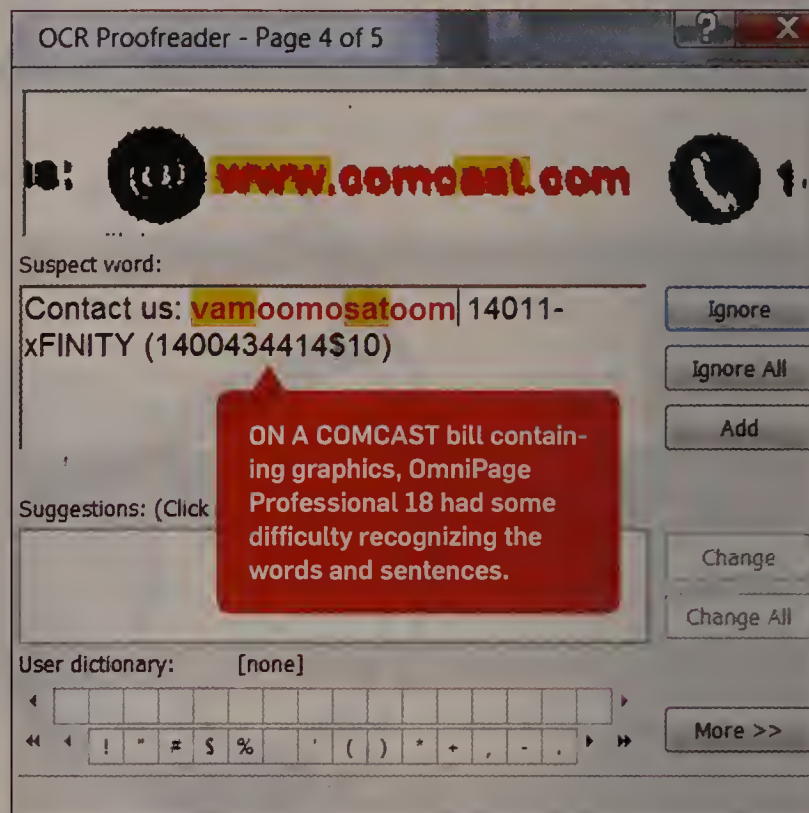
WGU's competency-based education lets you progress through your online program as you prove your knowledge of it. You have the flexibility to keep living your life, while staying on target to meet your career goals. It's no wonder 94 percent of our graduates would recommend us.



WESTERN GOVERNORS UNIVERSITY

www.wgu.edu/PC | 1.888.455.6007

Reviews & Rankings



OmniPage 18: Powerful OCR, Poor Interface

NUANCE'S \$500 OMNIPAGE Professional 18 optical character recognition software capably converts a scanned document into an editable file, but it's saddled with an awful, confusing interface.

Many tasks happen in discrete windows, and the program is rife with inconsistencies. For instance, you can find undo and redo under the edit menu in the main window, but they disappear in certain modes.

When I used my Canon scanner, the program delivered high accuracy with an old product manual set in 7-point type, but it made a column too narrow, causing text overflow. A Comcast bill with graphics proved more challenging, especially when I used my Motorola Droid's camera to capture an image

of the bill. Text boxes overlapped or cut off, and some passages came out wrong.

Nuance Cloud Connector lets you save and retrieve files via cloud-storage services. eDiscovery Assistant, another feature, can batch-process PDFs to make them searchable. It works well if you choose options carefully. For example, you can elect to open the PDFs automatically after processing, but I made a bad move in picking this option for a folder of 160 PDFs.

—Alan Stafford

★★★★★ FAIR

OmniPage Professional 18
Nuance

Interface muddles what should be a straightforward procedure.

List: \$500

find.pcworld.com/72213

Motorola's Photon 4G Smartphone Mixes Business With Pleasure

RUNNING ON ANDROID 2.3, the 5.57-ounce Motorola Photon 4G (\$200 with a two-year Sprint contract) sports a futuristic, angular look.

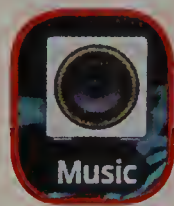
The 4.3-inch qHD display looks sharp, but in our trials it seemed to have a bluish

tint. We've noticed this trend in recent Motorola phones.

In addition to connected widgets, such as a social media aggregator, the Photon has Exchange support, enterprise security, and 3LM Ready for Business software.

Call quality was clear, though the default earpiece volume was a little too high. People on the other end said the sound was clear too.

The 8-megapixel camera suffers from off-kilter white balance, and details didn't



WHEN YOU POP out the Photon 4G's kickstand (use your nails), the phone shows an optimized interface with commonly used widgets.

look sharp. Our outdoor photos appeared a bit hazy.

Motorola offers a webtop media dock with an HDMI cable for \$99. When you use the dock, you can access a full Firefox browser and pro-

ductivity apps, as well as plug in a keyboard and mouse. In our tests, the dock worked well. It comes with a remote, and it charges the phone.


—Armando Rodriguez and Ginny Mies

★★★★★ VERY GOOD

Photon 4G | Motorola

Cool design, nifty accessories; photo fans won't like the camera. List: \$200 (with 2-year contract) find.pcworld.com/72189

PHOTOGRAPH: ROBERT CARDIN



Bluetooth®
Bluetooth standard Ver.3.0

PS 20 BT


PHIATON®

THE ULTIMATE LISTENING EXPERIENCE

CLICK [PHIATON.COM](#)



- **Max Bass** - Dual Chamber Structure produces accurate bass and clean sound
- **Echo-off** - Noise reduction technology helps eliminate background microphone noise while on calls
- New v3.0 Bluetooth technology provides clear connections to your wireless device

NOW AVAILABLE AT: amazon.com 

Libre Touch Proves Hard to Use

THOUGH THE ALURATEK Libre Touch color e-reader (\$150) includes basic Web browsing, email, and multimedia playback, usability issues make it a tough sell.

Measuring 8.0 by 4.9 by 0.5 inches and weighing 12 ounces, it has three buttons for turning pages and going

back. But most of the action occurs via the touch interface. The screen uses resistive technology, which is not really fingertip-friendly; on occasion you have to tap a few times to get a response.

The colors are adequate, but the 800 by 480 resolution isn't high for an e-reader. Letters don't look smooth, especially when you use the largest font. Like other backlit LCD screens, this display washes out in bright sunlight.

In general, the interface needs work, too: Although the home and back icons

make navigation reasonably intuitive, the overall look is chaotic and unattractive.

The Libre Touch supports Adobe Digital Editions and ePub. You can also buy titles via the Kobo bookstore; when I viewed a category, however, the page promised to show six books at a time, yet displayed only three. Navigating the store went slowly on the 802.11 b/g Wi-Fi, and the site's interface was not ideal—I had to click a 'More' tab to reach categories such as *New York Times* best-sellers.



THE ALURATEK LIBRE Touch e-reader is based on Android 1.5.

Battery life varies depending on Wi-Fi use, but Aluratek says the e-reader can run for 8 hours on a charge.

—Yardena Arar

★★★★★ FAIR

Libre Touch | Aluratek

Inexpensive e-reader with tablet features has usability flaws.

List: \$150

find.pcworld.com/72205

PHOTOGRAPH: ROBERT CARDIN

11AMGPVNOV

Students, Educators, and Schools take advantage of
Academic Discounts
& save up to **85%**

Thousands of
Products Available!

Save \$400
only \$97.95

**ACADEMIC
SUPERSTORE**

Get \$10 off any order over \$99
use Priority Code **644091** at checkout.

www.AcademicSuperstore.com/pwno • 1.800.580.9237

Offer expires 11/30/11. Pricing may vary and subject to change without notice.

Maxthon Web Browser Works With Almost Any Site

DOWNLOAD 

THE MAXTHON WEB browser lets you switch between two built-in rendering engines, WebKit and Trident, with a click. As a result, no website—even older ones designed for Internet Explorer only—should be incompatible when you're browsing.

This speedy browser includes an ad blocker, a screenshot taker, and a YouTube downloader. It can also access multiple search engines. You can rework the appearance, take away icons, download add-ons, and so on. By default it's loaded

with icons—and you can't tell what some of them do. Having so many things to click made me long for Chrome.

If you want a browser that has everything you need but doesn't sacrifice customizability, Maxthon is for you.

—Steve Horton

★★★★★ VERY GOOD

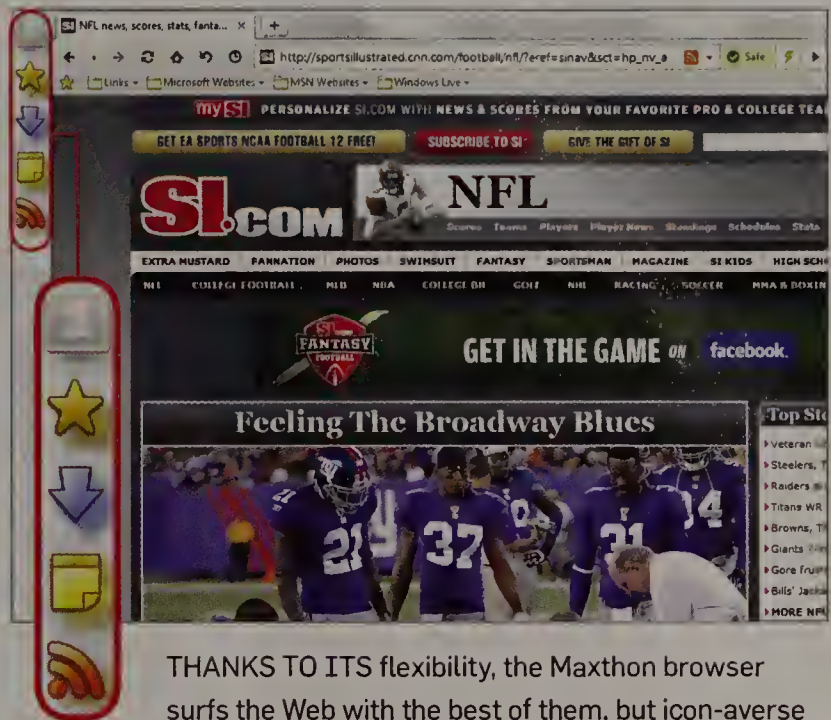
Maxthon

Maxthon International

Versatile browser offers two engines and high customizability.

Free

find.pcworld.com/72188



THANKS TO ITS flexibility, the Maxthon browser surfs the Web with the best of them, but icon-averse users will appreciate the option to hide icons.

YES! YOU CAN SAVE 75% ON PRINTING COSTS OR MORE. Only \$9.99 per year or FREE with purchase of any cartridge.

New!

- Inkgard UV Invisible Ink - appears invisible until placed under UV light
- Inkgard MICR Black Ink - print bank compliant checks

Also available at Inkgard.com...
Inkgard™ Ultra Yield Print Cartridges for HP, Canon, Dell, Epson, Lexmark & more.



Get Inkgard™ software FREE with purchase of any ink or toner cartridge!

FREE Inkgard!

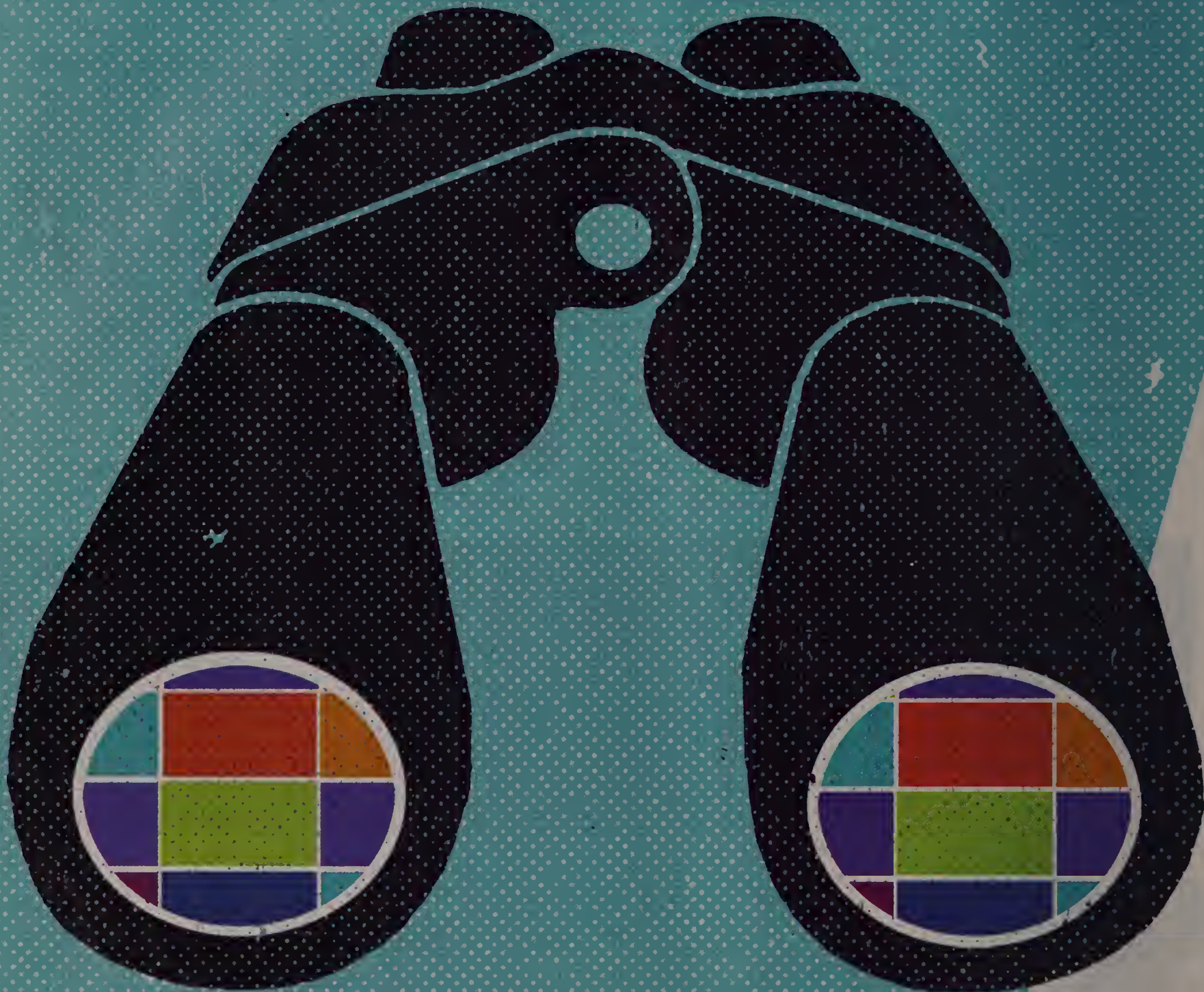


Inkgard™ software optimizes image quality for maximum print yield.

- Up to 75% Savings on Ink and Toner!
- Works with any Printer
- Quick One-Step Setup
- Bonus: Powerful PDF Generator

Visit www.inkgard.com/pc1 for details or call 858-217-3130

Prolog



First Look at Windows 8

Microsoft has been working on Windows 8 since the day it shipped Windows 7. At the recent **Build conference** for developers, we finally got our **first detailed look** at the **biggest change** to Windows in over a decade. Based on what **we've seen** so far, plus our **hands-on work** with an early version of the code, we're excited. And you should be, too. »

BY JASON CROSS AND NATE RALPH

ILLUSTRATION BY DAN PAGE



With Windows 8, Microsoft likes to say it is “reimagining” Windows. It’s a hyperbolic term that promises dramatic changes. For once, however, the hyperbole actually fits. Windows 8 may not land on your computer for a year or more. But when it does arrive, Microsoft’s latest operating system could alter the very definition of a Windows PC.

The redefined Windows PC has a keyboard and mouse, a touchscreen, or both. It’s a tablet, a laptop, or a desktop.

It runs an ARM system-on-chip CPU as today’s tablets do, or a traditional x86 chip from Intel or AMD. It has a taskbar, icons, and windowed programs, but it also has a Start screen, tiles, and full-screen immersive applications.

The last time Microsoft made such dramatic changes to the way its operating system looks and functions, along with wholesale revisions to the underlying technology, was 16 years ago, with Windows 95. People lined up around the block at midnight sales to get it.

Can Microsoft inspire that same level of excitement again? It’s too early to say. Windows 8 hadn’t even entered beta testing at the time this article—based on Microsoft’s September preview—was written. But the changes revealed so far are more exciting than any release of Windows in a very long time.

A New Way to Use Your PC

Log in to a Windows 8 PC, and you’re greeted with the Start screen. In place of a taskbar full of applications and a desktop packed with shortcut icons, your screen consists of a grid of tiles. As with icons, clicking or tapping a tile

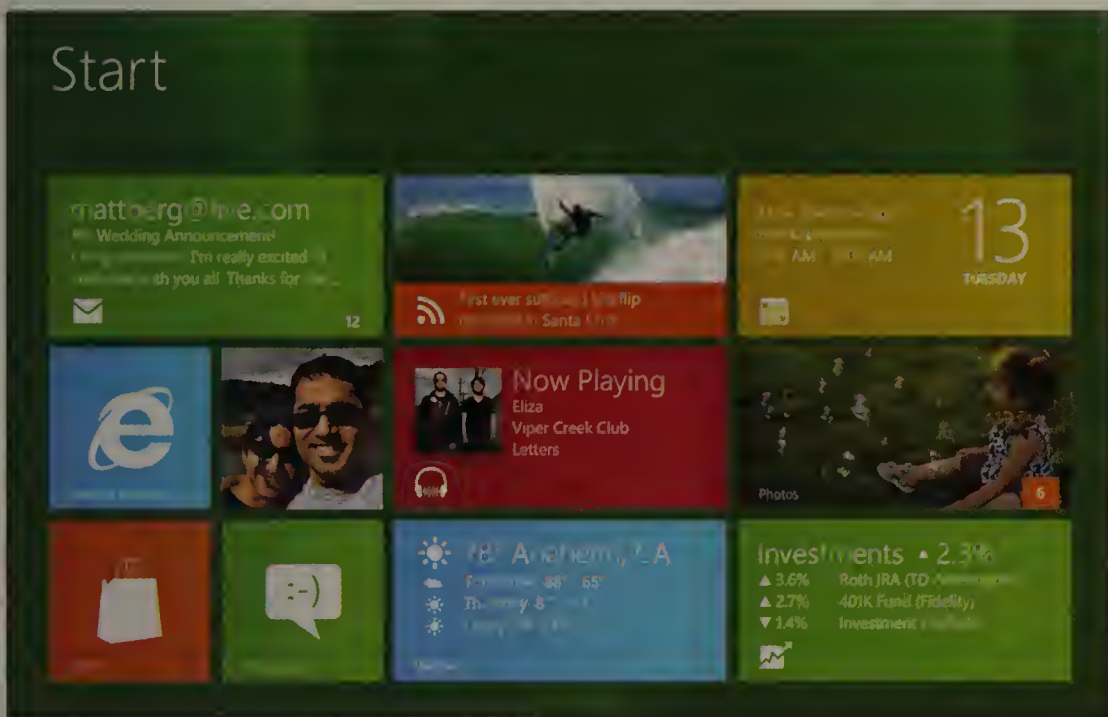
launches an application; unlike icons, the tiles display useful data. The weather tile, for instance, displays the current weather even when you don’t launch the weather app. If you’ve seen Windows Phone 7, you’ll immediately recognize this new design style, which Microsoft calls “Metro.” In Windows 8, whether you’re using a touchscreen tablet or a powerful keyboard-and-mouse desktop PC (or anything in between), the default interface is a horizontal Metro-style grid of tiles that are arranged into customizable groups.

Applications made for this new interface work like tablet apps and display well on smaller screens with finger-driven interfaces. They’re full-screen and immersive, without any of the “chrome” you find around desktop applications. That means no minimize or maximize buttons, no scrollbars, and no drop-down menus.

Swipe in from the right side of your tablet or touchscreen PC, and you’re presented with the five Windows 8

OSs Compared: Windows 7, 8, and OS X Lion

FEATURES	Windows 7	Windows 8	OS X Lion
System requirements	1GHz processor, 1GB of RAM, 20GB of hard-disk space, DirectX 9 graphics card.	Same as Windows 7, though it may use even fewer resources. Also supports select ARM system-on-chips.	Core 2 Duo or better Intel CPU, 2GB of RAM, 7GB hard-disk space, Snow Leopard (OS X 10.6.8).
Hardware support	Needs third-party drivers for USB 3.0, printers, orientation sensors, and cellular data modems.	Built-in support for USB 3.0, many printers, lots of sensor types, and cellular data modems.	Thunderbolt display; no USB 3.0, no Blu-ray.
Cloud features	Users must install third-party apps to sync files or settings; cloud data not universally accessible to applications.	Log in with Live ID, and settings, data, and Metro apps sync automatically. Some cloud services’ data available to all Metro apps.	iCloud syncs music purchased via iTunes, and documents and photos; it is slated to work with third-party apps.
Security	Windows Defender combats spyware only. TPM for encrypted hard drives. SmartScreen filter in IE 8 and IE 9.	Defender upgraded to fight all malware types. TPM extends to hardware verification. SmartScreen filter throughout OS.	FileVault hard-drive encryption, enhanced application sandboxing, full Address Space Layout Randomization (ASLR).
Performance	Faster and more efficient than Vista.	Faster and more efficient than Windows 7 (in prebeta form).	About the same as Snow Leopard.
“Wow” factor	“It’s like Vista, but it works!”	“It’s a touch-based tablet and desktop OS all in one!”	“iOS and OS X—two great flavors, together (sort of) at last.”



"Charms": Start, Search, Share, Devices, and Settings. Start always returns to the Start screen, but each of the other Charms brings up a context-sensitive menu relative to the application you're using. In a photo-viewing app, for example, the Search button by default would search through your photos. Share would allow you to share a photo with Facebook, Twitter, or any other app that can receive shared photos. The Devices Charm would let you access your printer (to print a photo) or your digital camera (to import new ones). Settings would display a list of photo-app-specific settings—perhaps brightness and contrast—along with core systemwide settings such as volume, power, and network connectivity.

Swipe in from the left of the screen, and you flip back through your running applications, like flipping through photos on your smartphone. A swipe from the bottom or top of the screen reveals an "app bar" overlaid onto the bottom, where applications store their lists of commands. Our hypothetical photo app could put commands for cropping, resizing, rotating, and fixing red-eye in this bar. Think of it as the area where you'll find the commands typically found in a right-click context menu.

Log in to any Windows 8 PC, and you'll see the new Start screen, rather than the traditional desktop. Customizable groups of tiles will launch applications and provide information at a glance.

Meanwhile, the overlay on the top will handle in-app navigation, such as bookmarks or recent documents.

Touch navigation, even at this early stage, is fast and responsive. It's simple and intuitive, and it has all the little niceties you'd expect to make a touch-screen device feel right, including several built-in touch keyboards. These keyboards could use refinement, but they're already better than what you get in Windows 7, and they have auto-correct and spelling-check enabled.

No Touchscreen? No Worry

What if you don't have a tablet or touchscreen? What if you're a keyboard-and-mouse user? You'll be happy to know that Windows 8 doesn't treat you like a second-class citizen. Move your mouse to the lower-left corner, and up pop the Charms, exactly where you used to see the Start menu. (The Start screen makes a Start menu obsolete; it's as >>

Favorite Features

ALTHOUGH WE MAY need to wait a year before Windows 8 hits shelves, a few features are so promising that they have us counting the days.



Nate Ralph says:

I like to build things: furniture, computers, and increasingly, digital

wares. By placing Web development tools such as HTML and JavaScript on a level playing field with the programming languages that seasoned code warriors wield, Microsoft has democratized Windows 8 app development. I'm as amateur as it gets when it comes to trying my hand at software development, but Microsoft's Visual Studio Express and other free tools offer powerful templates to jump-start budding code jockeys like myself on the way to making stunning Metro apps.

Jason Cross says:

I can't tell you how many hours I've slaved away at friends' and family



members' computers, cleaning off toolbars, junk software, and malware while trying to preserve all of the data that they hadn't backed up. Windows 8's Refresh and Reset features could make this tedious process almost painless. Refresh and Reset will also simplify the testing of systems and components by making it easier and faster to restore a machine to a clean, default testing state, unburdened by beta software and drivers. I can't wait.



8 Things We Still Don't Know

1 How many versions will come out? Windows 7 had six, from Starter to Ultimate, but most users saw three. Expect a similar number.

2 What will the name be? Windows 8 is officially just a code name, but "Windows 7" has worked well, so why change?

3 How much will it cost? Windows 7 costs from \$100 to over \$200, with volume discounts for manufacturers. Microsoft is unlikely to stray far from those prices, but the ARM versions for inexpensive tablets will probably cost manufacturers less.

4 How will Xbox Live work on Windows 8? We know you'll get your avatars, achievements, and messages, but not how it will work. Don't expect to pop an Xbox 360 disc into your PC's drive and play it, though.

5 Will the next version of Office feature Metro apps? A new standard desktop version will surely surface, but users of touch-based tablets will want Office, too.

6 What new tools and utilities will Windows 8 include? Calculator, Paint, and other oft-used accessory apps are sure to be updated for Metro, though we haven't seen them yet.

7 Will Microsoft take a cut from the Windows Store? Developers give Microsoft 30 percent of revenue on sales through Windows Phone 7's app store, but that might not fly with developers on Windows 8.

8 What applications will run on ARM-based tablets? Today's Windows desktop programs won't work on ARM. Windows 8 tablets using ARM CPUs can run Metro-style apps, but can developers make traditional desktop applications for ARM?

if the Start menu is now full-screen and loaded with useful at-a-glance info.) Panning across the grid of tiles works with the mouse wheel, but you also get a scrollbar in all scrollable parts of the interface. Simply right-click to bring up the same menus you see when you swipe from the top or bottom of the screen. If you want to search, just start typing, and the search interface comes up, populated with real-time results.

Of course, Microsoft isn't asking you to throw away several years' worth of accumulated Windows applications. Instead, conventional Windows desktop programs—the kind you run today in Windows 7—will launch in a full desktop, complete with taskbar, Recycle Bin, system tray items, and desktop shortcut icons. In fact, Microsoft promises that everything that runs on Windows 7 will also run on Windows 8. This desktop won't be a secondary mode of operation, though. Rather, it will coexist with

your full-screen Metro-style apps.

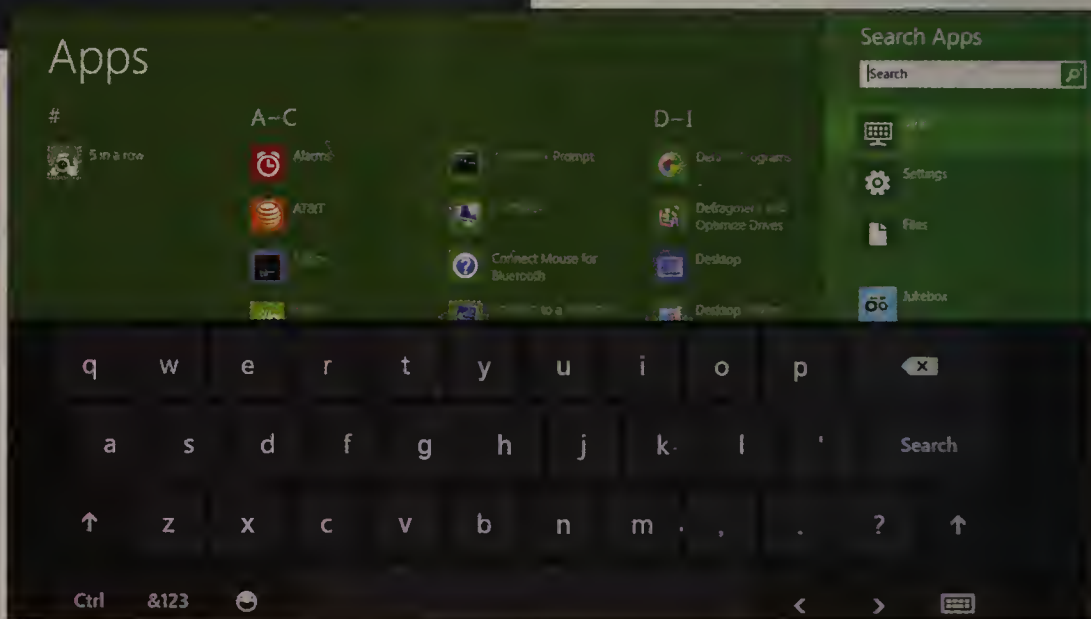
And programmers will create those full-screen Metro apps using a new development model that gives them greater flexibility. Developers can make Metro apps with traditional programming languages like C++, C#, and Visual Basic, but they can also make apps with Web development standards such as HTML 5, CSS 3, and JavaScript. This should mean faster, easier app creation for a wider range of developers, and maybe a broader array of high-quality apps.

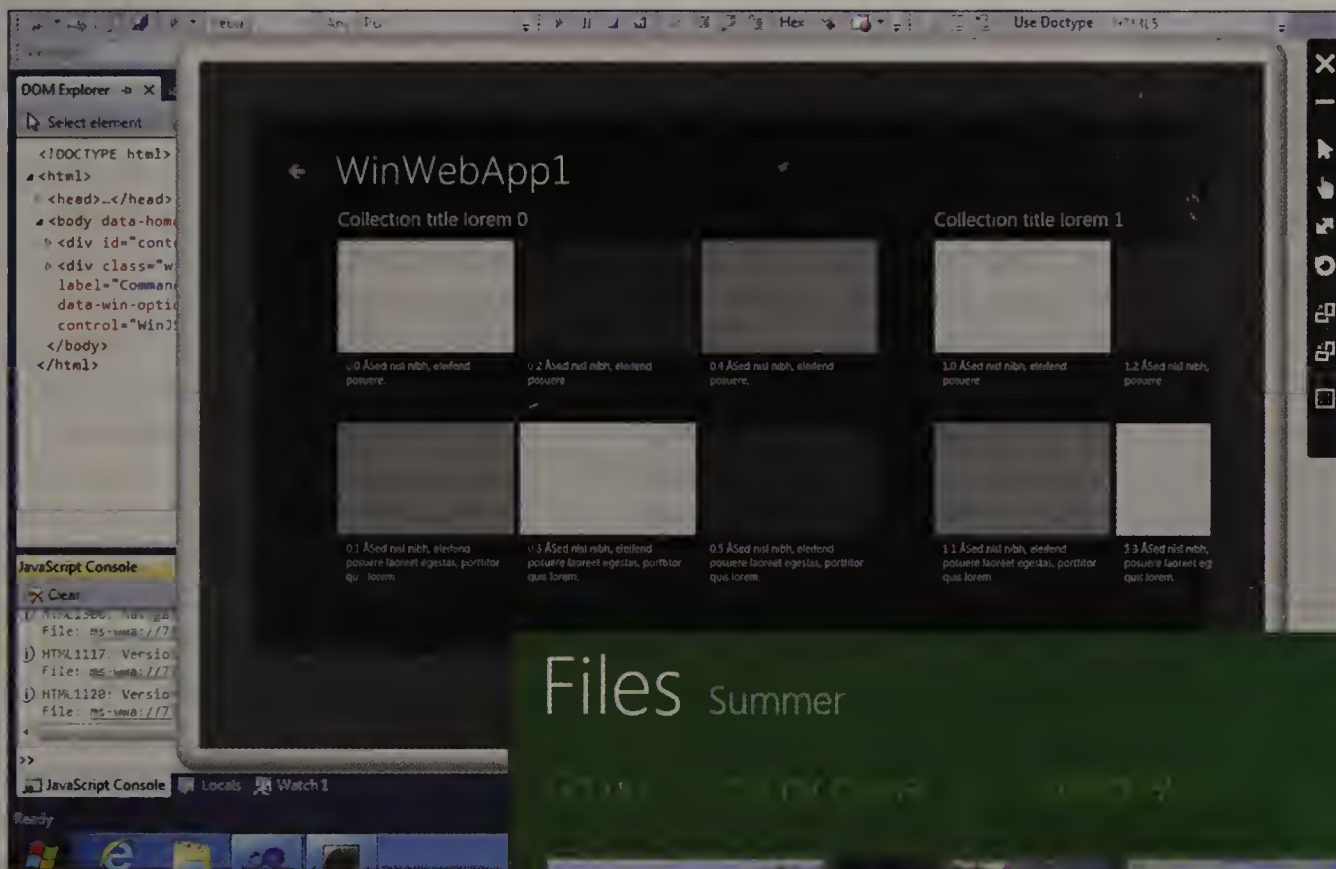
Users will download these apps from a Windows Store that should resemble the app stores for Windows Phone 7 and other smartphone platforms. You can still buy and install legacy Windows desktop applications from any source you like, and Microsoft will even list some of them in the Windows Store, linking out to the developer website if you want to make a purchase.

Your PC, Everywhere

Our modern lives revolve around multiple devices, with gadget mavens and Luddites alike shuffling between desktops, laptops, and smartphones every day. Our gadgets have evolved, too: Massive hard drives, perpetual Internet connectivity, high-fidelity cameras, and stunning multitouch screens have altered the way we work and play, while

On touch devices, Windows 8 includes several layouts for on-screen keyboards. If you have a keyboard, just start typing anywhere in the Start screen, and you'll begin a search.





Developers can make full-screen Metro apps using HTML 5, CSS 3, and JavaScript in addition to traditional programming languages.

An application that wants to use one of your photos can get it not only from your files, but also from online services you use.

Files Summer



leaving us with a hefty amount of data tucked away in separate silos. Windows 8 brings all these sources together.

In Microsoft's dream scenario for the new OS, everything starts with your Windows Live account. Log in to your device of choice, and your digital wares travel with you. The same content appears across all the devices you own, from the powerful desktop sitting in your apartment to the tablet you tote on your morning commute. The aim is to serve up a unified experience, with apps, photos, and a consistent user interface that accompany you wherever you are and on whatever device you have at the moment.

The Everywhere OS is an idea that's long overdue. Although the technology we use evolves rapidly, many of us can't abandon the tools we've come to rely on.

Desktops rule the roost in cost-effective storage and performance. A tablet is great for reading reports or firing off the occasional missive, but you'll miss a laptop's physical keyboard when it comes time to get serious work done on the go. You're free to swap between devices, but sharing information among them today is an ordeal.

With Windows 8, Microsoft hopes to eliminate those long-standing compromises. Whether you're browsing the Web on a svelte ARM tablet or crunching Excel data on a multimonitor workstation, you'll have access to the same apps and the same platform interface that you've grown accustomed to.

It's already clear that Microsoft has gone to some length to create a platform that's tablet-friendly, while simultaneously addressing the distinct needs

of those users who prefer to work with keyboards and mice. To pull off such a unitary, multidevice platform, the transition needs to be seamless—which is where developers come in.

Windows 8 is designed to leverage all that the Internet has to offer, and apps will need to follow suit. Woven into the fabric of the operating system are a slew of tools to help developers unify their software; as a result, they'll need to write an app only once, and it will run everywhere. Every touch gesture has a mouse- or keyboard-driven analogue, and they're generally identical—or at least as similar as can be.

Interoperability goes well beyond making sure that tapping on a screen translates correctly on a device not touch-enabled. Modern handheld devices have all but shrugged off the file >>



systems of old. Rightly so: File trees and folders harken back to a time when you had no elegant way to track down a certain photo or song on your hard drive.

Nowadays, search is king, and Microsoft has thoroughly integrated it into the new operating system. While on the Start screen, start typing on your keyboard (or swipe from the right and choose the Search Charm), and you'll bring up Windows 8's search pane. Let's say you search for "cat." The search pane will compile a list of any similarly named apps, settings, or files. Microsoft encourages app developers to come

along for the ride, searching local and cloud data, pulling any cat-related content from the ether, and displaying it on your device in all its glory. A Twitter app could register itself as search-capable, for example, and deliver a list of tweets about cats, while your music app could display all your Cat Stevens songs.

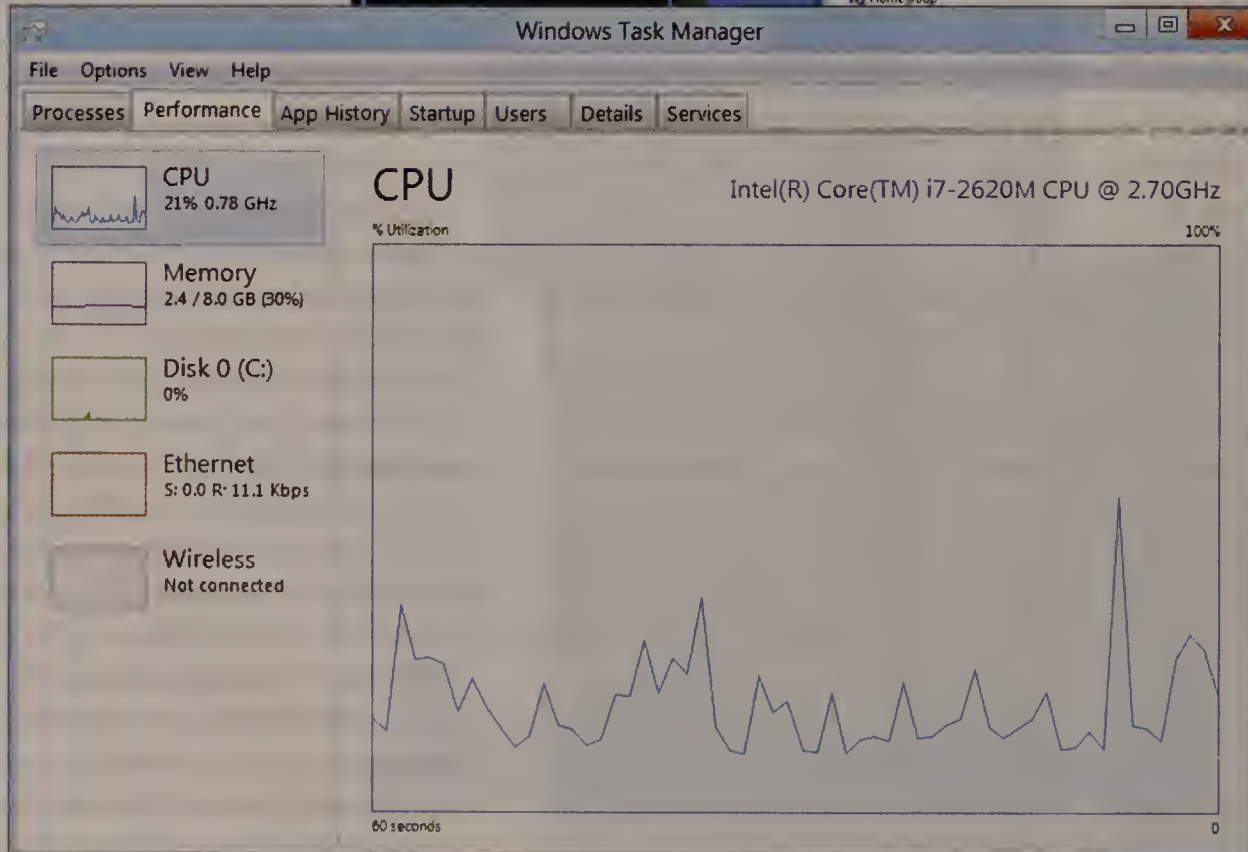
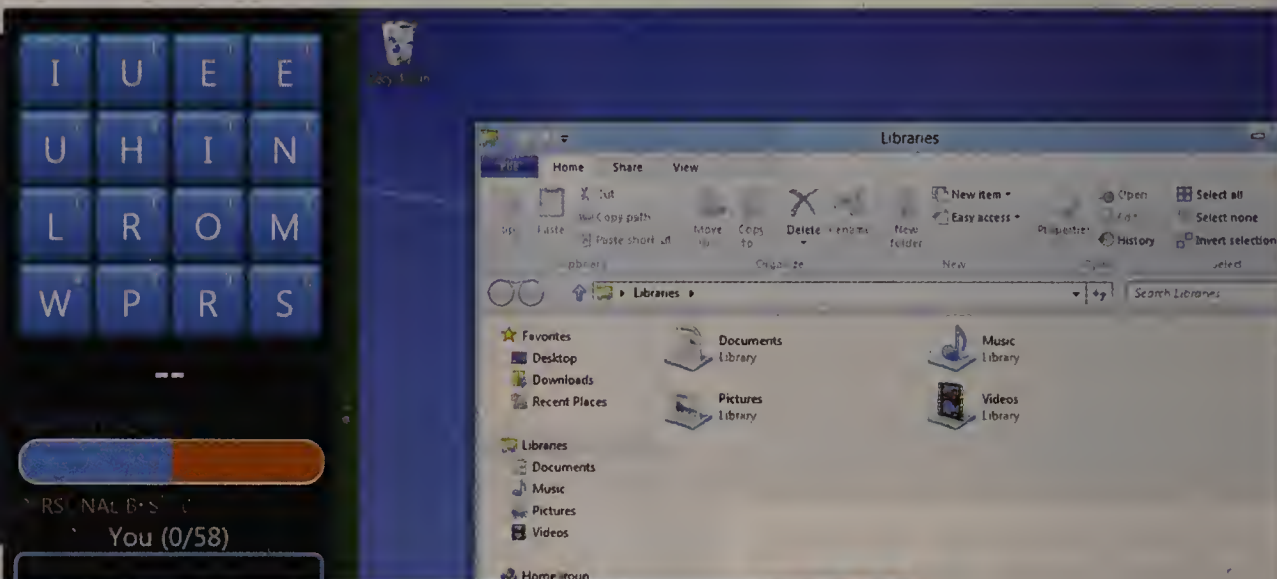
This functionality isn't restricted to indulging your feline pursuits. Apps will be able to access your personal data just as readily (if you let them). Say you want to post a photo to Twitter: The Twitter app will pull images from your local drive, Facebook, Flickr, SkyDrive,

or other registered services using photos. Data will be accessible across all your Windows 8 devices: Add pictures to your desktop PC, for example, and they'll sync to your laptop and tablet. Network passwords, changes to the spelling-check dictionary, and Start screen tile layouts all can sync instantly across your Windows 8 systems.

Improvements for Everyone

Windows 8 is a lot more than just a pretty new interface. It promises to be full of features to benefit everyone, even if you're using a standard PC with

Traditional desktop applications still run on a desktop similar to that of Windows 7, but this doesn't prevent you from running the new Metro apps. You can even run both side by side.



Enthusiasts and administrators will love the new Task Manager. It's cleaner and more attractive while displaying more information. And it also gives you more control over processes and startup items.

no touchscreen and you plan to spend most of your time in that good old desktop environment. Thanks to a new memory manager and serious optimization efforts, the current early version of Windows 8 actually uses fewer resources than Windows 7. We've seen Windows 8 systems—prebeta, to be sure—with boot times so fast that we could hardly believe they were running Windows.

Tired of managing printer drivers? Windows 8 introduces a “class driver” for printers, like those used today for keyboards, mice, and USB devices. Just plug in your printer, and it should work; most printers that support Windows 7 work with the class driver. USB 3.0 gets native support, too. As for developers, they can look forward to standardized interfaces to deal with touchscreens (such screens are far more responsive in Windows 8 than in Windows 7) and with a wealth of sensors found on mobile devices—accelerometers, gyroscopes, electronic compasses, and so on.

The new Restart and Refresh features should prove popular. Restart returns your PC to its out-of-the-box condition in 10 or 15 minutes, wiping all user data—perfect for selling or donating a computer you're replacing. Refresh keeps all your user profiles, data, and Metro-style apps from the Windows Store, while returning everything else to a clean slate. It's like reinstalling Windows and copying back all your data, but it will be one-click easy and considerably faster.

Power users will love the new Task Manager. It has received a face-lift that displays useful data about your running processes, gives better at-a-glance info on system performance, and incorporates the startup configuration capabilities of Msconfig. Multimonitor users can better control how the taskbar operates, and easily choose which display the Start screen appears on.

For businesses and IT managers, Microsoft throws in a host of new tools,

Windows 8 vs. Lion

EVEN AT THIS early stage in its development, Windows 8 is reminiscent of Apple's recently released OS X Lion. While it makes little

sense to compare prebeta software with an OS in release for months, there is value in examining their underlying assumptions about what an operating system should look like in the age of smartphones and tablets.

1 **If the iPhone's success has taught us anything, it's that consumers want their software to be hassle-free.** That means ditching retail boxes in favor of downloads, automatic software updates, and elegant interfaces that keep users informed. The Metro app ecosystem hits all three points with panache. But whereas Lion offers apps in the form of compact icons suggestive of the iOS approach, Windows 8 serves up gorgeous, customizable tiles that relay useful information in a compact space.

2 **An interface must do more than simply keep users informed.** Lion applies lessons that Apple has learned from its multitouch devices, implementing trackpad gestures to make interacting with your Mac more efficient and admittedly immersive. But it still delivers the look and feel of a traditional operating system, replete with folder hierarchies and windows to wrangle. With Windows 8, Microsoft has shoved the old design ethos aside, developing a unified interface that flows readily from 7-inch ARM tablets to multimonitor desktops. If you juggle a lot of devices, your workflow will be dramatically simplified.

3 **The cloud takes things one step further.** Both Lion and Windows 8 have tendrils that snake into your assorted devices. But while Apple's iCloud ensures that your media and photos populate across all your gadgets, Windows 8 makes your personalized interface available everywhere—from apps down to the particulars of your tile layout. Perpetually connected devices make it all possible, and it's a bold approach that will shake up how you interact with your tech.

including built-in Hyper-V virtualization on the client, enhanced remote desktop capabilities, and the ability to run Windows 8—complete with applications and data—from a USB device. Explorer has a new layout and Ribbon interface to make more-common commands easier to access, and you can directly mount VHD and ISO files without needing any extra software.

Microsoft has yet to reveal all the tricks in the Windows 8 goody bag. Even so, it's easy to be positive about the bold direction that Microsoft is

clearly taking. And although such dramatic changes are sure to alienate some users, they are needed if Windows is to remain relevant as an operating system for the next several years.

The computing world is changing. Rather than resist this surging tide, Windows 8 swims with it. ●

MORE ONLINE

Keep up with PCWorld's ongoing Windows 8 coverage—simply go to find.pcworld.com/72271.



**LAB
TESTED**



Samsung UN46D8000



TVs

of

2011

TOP

Whether you want a high-end 3D TV, a set that plays well with the Internet, or just a great-looking flat screen, our tests reveal the best choices. »

BY PATRICK MILLER
PHOTOGRAPHS BY ROBERT CARDIN

This is a great time to buy an HDTV: 3D technology is better (and cheaper) than ever before, Internet-connected smart TVs have gotten a lot smarter, and you can find LED-lit LCD television panels that offer excellent color and contrast even in some inexpensive, entry-level HDTV models on the market from major manufacturers.

Some sets have excellent picture quality but subpar 3D support. Others look great in 2D or 3D but have less-than-stellar Internet-connected features. So we've identified our favorite 3D TVs and smart TV formats in addition to our Top 10 overall sets. That way, you can find the television that's right for you, whether you're a home-theater purist, a 3D TV enthusiast, a smart TV aficionado, or some combination of the three.

State of the Set: 2011

TVs in 2011 have taken 2010's hot trends—3D, Internet apps, and LED lighting technology for LCD sets—and made them better and cheaper. Today, most sets from major manufacturers offer a wide array of Internet-connected features and 3D support through active-shutter or polarized 3D glasses. Traditional CCFL-backlit LCD panels have nearly disappeared from store shelves, supplanted by their LED-backlit or LED-edgelit cousins, which deliver more-vivid color and sharper contrast

despite using less power overall.

Meanwhile, plasma TVs haven't managed to get quite as skinny as LED-edgelit sets, but they're still very much alive and kicking; and some of the plasmas that we tested earned image quality scores comparable to those achieved by high-

end LED sets that cost nearly twice as much. If you're looking for big and less expensive, plasma is still your best bet—as long as you're okay with a television set that consumes up to twice as much power as an LED TV of equal size.

Our jury of testers found that this year's sets did not display content significantly better than last year's, though the refresh-rate war seems to be largely over. LCD sets used to handle motion-heavy scenes far worse than plasmas, since LCD sets couldn't refresh the screen image fast enough to keep up, and as a result the video sometimes looked blurry. Now Sony and Samsung are offering LCD televisions with refresh rates as high as 960Hz, though most LED sets remain at 120Hz or 240Hz—and exceeding 240Hz may not make things look better. In fact, we often notice more "juddering" (image artifacts created when fine patterns warp or vibrate on screen) in 240Hz sets than in 120Hz TVs—so don't be fooled into thinking that the bigger number is always better. Read our online feature "LCD HDTV Motion Features" (find.pcworld.com/72245) to understand why this happens.

In our testing we've found that each television in a model



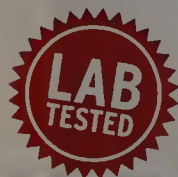
The LG

Infinia 47LW6500, combines a slick design, a 47-inch LED-backlit screen, excellent features, and attractive passive 3D performance to emerge as one of our favorite HDTV sets of the year.

line performs similarly regardless of its screen size, so you can expect 46-inch, 55-inch, and 60-inch Samsung D8000 series TVs to perform equally well. When shopping for a TV, find the model line you like best and then choose the size that's right for you. For tips on finding your ideal TV size, read "5 Common HDTV Questions, Answered" (find.pcworld.com/72247).

Image Quality

If you're buying a new midrange or high-end TV from one of the major TV manufacturers, you can expect it to look great. Our jurors rate TV image quality on a 100-point scale, and the difference between the TV with the highest marks for image quality and our number-ten choice was a mere 6 points. >>



TOP 10 HDTVs

LED Sets Dominate 2011 Rankings









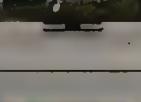
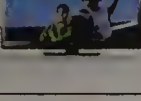
MODEL	Rating	Pros	Cons	Bottom line
1  Samsung UN46D8000 \$1650 find.pcworld.com/72253	★★★★★ SUPERIOR	<ul style="list-style-type: none"> • Top-notch image quality and feature selection • Very good color in 3D scenes 	<ul style="list-style-type: none"> • Minor motion issues 	Samsung's 46-inch UN46D8000 delivers excellent image quality and features, though its high refresh rate led to a few imperfections in our motion tests.
2  BEST BUY LG Infinia 47LW6500 \$1400 find.pcworld.com/72254	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Very good image quality • Excellent feature selection 	<ul style="list-style-type: none"> • Minor motion issues 	The 47-inch Infinia 47LW6500 is a great passive 3D set with top-notch features. It did exhibit a few flaws in our motion testing, but they aren't deal breakers.
3  Sony Bravia 46HX820 \$1700 find.pcworld.com/72255	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Gorgeous thin design • Excellent picture quality 	<ul style="list-style-type: none"> • Clunky remote • Menus aren't well organized 	Sony's 46-inch Bravia 46HX820 looks great in either 2D or 3D mode, has a generous array of options, and complements them with a very attractive design.
4  LG Infinia 50PZ950 \$1500 find.pcworld.com/72256	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Excellent 3D • Well-designed Internet features 	<ul style="list-style-type: none"> • No built-in Wi-Fi • Menus are complicated 	The Infinia 50PZ950 has very good image quality and an excellent feature selection, but this 50-inch plasma set needs built-in Wi-Fi and a better setup guide.
5  Vizio XVT3D650SV \$2600 find.pcworld.com/72257	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Good 3D support • Bluetooth QWERTY remote • Dual-band Wi-Fi support 	<ul style="list-style-type: none"> • Mediocre audio quality • Not many ports 	Vizio's giant (65-inch) LED-backlit XVT3D650SV combines good image quality, solid connected TV features, and 3D support at a reasonable price.
6  LG Infinia 47LW5600 \$1300 find.pcworld.com/72258	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Very good Internet/local media streaming features • Good 3D 	<ul style="list-style-type: none"> • Weak audio • Relatively narrow viewable range 	The 47-inch Infinia 47LW5600 has good passive 3D features, excellent Internet streaming offerings, and a user-friendly motion-based remote control.
7  Samsung PN51D6500 \$1250 find.pcworld.com/72259	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Fantastic sound • Good remote/menu design • Support for video search across multiple Net sources 	<ul style="list-style-type: none"> • High power consumption • Motion and contrast issues 	Samsung's power-hungry, 51-inch PN51D6500 is a solid plasma TV with pleasing Internet features and image quality, but it struggled a bit in our motion tests.
8  Panasonic Viera TC-L42D30 \$1000 find.pcworld.com/72260	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Great sound • Good overall feature selection • Very low power usage 	<ul style="list-style-type: none"> • Unexceptional image quality • Mediocre sound quality 	A decent-looking, power-efficient LED set with a good batch of features, the 42-inch Viera TC-L42D30 didn't stand out in our image quality testing.
9  Panasonic Viera TC-P50ST30 \$1050 find.pcworld.com/72261	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Easy to use and set up • Includes built-in Wi-Fi, USB, and SD Card support 	<ul style="list-style-type: none"> • Unexceptional image quality • Mediocre sound quality 	Panasonic's Viera TC-P50ST30, a fairly inexpensive 50-inch plasma 3D TV, comes loaded with features, but it did not distinguish itself in our image quality tests.
10  Sharp LC-60LE835U \$2000 find.pcworld.com/72262	★★★★★ VERY GOOD	<ul style="list-style-type: none"> • Good built-in audio and image quality • Decent price 	<ul style="list-style-type: none"> • Sparse selection of Internet services 	The 60-inch Sharp LC-60LE835U is a decent all-around television at a reasonable price, but its 3D and Internet-connected features are somewhat lackluster.

CHART NOTES: Ratings are as of 9/12/11. Screen size is the television's diagonal screen measurement.

The Sony

Bravia 46HX820 is notable for its extremely thin and attractive design. This set's 46-inch LED-edgelit screen earned unusually high image-quality scores from judges in our PCWorld Labs tests.



The top three sets nailed our image-quality tests. The Samsung D8000 and the LG Infinia LW6500 did suffer from fine patterns in certain test scenes (a brick wall, for example, or a city skyline) vibrating slightly. The Sony Bravia 46HX820 had slightly lower scores in brightness and color, but delivered better detail levels and handled the intricate-detail test scenes flawlessly. Overall, video on all three sets looked fantastic.

The Infinia PZ950, LG's flagship plasma set, received color, detail, and brightness scores on a par with those of the top three, but it struggled in our motion tests: A scrolling movie clip of a seaside town looked choppy and vibrated a bit on the PZ950, while the other top sets rendered it smoothly.

The Vizio XVT3D650SV, LG Infinia LW5600, and Samsung D6500 all delivered generally good image quality but had a few additional minor flaws. The Vizio suffered from slightly muted color; the LG showed less contrast; and the Samsung showed more problems with detail and motion than the top three did.

Images on the Panasonic Viera TC-L42D30 weren't as good as on competing sets, due to muted colors and a greenish tint. Panasonic's Viera TC-P50ST30 had oversaturated skin tones and motion problems; and the Sharp set looked too dark and had a relatively narrow range of good viewing angles.

Smart TVs

The year 2011 marked the coming of age of Internet-connected ("smart") HDTVs. Though your TV's ethernet cable probably won't replace your cable TV quite yet, many more apps and video services will find their way into your TV—a far cry from 2010's connected TV features, which typically amounted to

Netflix, YouTube, and a rental service or two. Today, you can expect your TV to come with several general video-streaming services (Hulu Plus, Netflix, YouTube), a few video-on-demand rental services (Amazon Instant Video, Vudu, CinemaNow), Internet radio from Pandora and Rhapsody, social networking through Twitter and Facebook, an array of special apps for sports and photos, and sometimes even a full Web browser.

Still, choosing a TV based solely on its Internet features doesn't make a lot of sense. They're nice extras, but we have yet to see a killer TV app. If you're hankering for particular Internet TV features, you can usually get them on your existing TV by buying a stand-alone set-top box or Blu-ray player. For example, LG sells a set-top box called Smart TV Upgrader (for about \$100) that gives users access to the full LG Smart TV catalog of Internet apps and services. If you prefer the Samsung Apps platform, you can buy a Samsung Blu-ray player that includes Netflix, Hulu Plus, and all of the other features in Samsung Apps for \$170.

LG's Smart TV platform (which we tried with the company's 47LW6500, 50PZ950, and 47LW5600 sets) offers the best overall Internet experience. The Magic Motion remote, which reminded us of a Nintendo Wiimote, lets you navigate by pointing and clicking. "Typing" with the Magic Motion is only marginally easier than with a standard TV remote, but you can download a free QWERTY keyboard app for your iOS or Android device, for easier delving into the Internet features.

Smart TV includes an array of high-quality apps—among them, Amazon Instant Video, CinemaNow, Netflix, Vudu, and YouTube for streaming video; Napster for music; and a few generally useful apps such as Accuweather, Facebook, Picasa, and Twitter. LG's Smart TV app store offers a selection of free and paid apps and games, though nothing looks particu-

larly impressive. The Smart TV platform also includes a Web browser, but it doesn't support Flash or HTML 5, so you won't be able to use it to watch most streaming Web video.

Samsung has consistently offered a strong group of Internet apps, and this year's Samsung Apps lineup (which we encountered while testing the UN46D8000 and PN51D6500) is no exception. In addition to the standard streaming-video apps (Blockbuster, CinemaNow, Hulu Plus, Netflix, Vudu, and YouTube), Samsung stocks a few niche video apps, like 3D Video on Demand via Explore 3D, and ESPN Next Level and MLB.tv for sports enthusiasts. Add some social networking apps (Facebook, Skype—camera not included—and Twitter) and streaming music through Napster or Pandora, and you have an above-average smart TV selection. Included with certain models is a special remote with a full keyboard, which makes searching for Internet content much less arduous. Though it's a good idea, the keyboard on Samsung's remote isn't quite as elegant as the one offered with some Vizio TVs.

In fact, the remote is the best thing about Vizio's Internet Apps platform (which we tried out in the XVT3D650SV model). About the size of a smartphone, the Bluetooth unit comes with a full QWERTY slide-out keyboard to make searching for videos easier, but it does not accompany every Vizio connected TV. Getting used to Vizio's remote takes some time, but once you do, it helps you take advantage of Vizio's app selection, which includes

Amazon Instant Video, Blockbuster on Demand, Hulu Plus, Netflix, and Vudu for streaming video and movie rentals; music via Pandora, Rhapsody, and Tune In Radio; and assorted apps such as eBay, Facebook, Fandango, Flickr, and Twitter. The overall selection is smaller than that found in competitors, yet it includes most of the major players, and Vizio gets bonus points for using a remote that makes navigating these features less of a pain. Plus, you can configure different profiles for different TV users, and add shortcuts to each user's favorite Web apps.

Sony Bravia Internet Video has always offered a broad (albeit somewhat eccentric) library of Internet video, but with an indifferent remote it's hard to get at some of the Bravia's features (as we found when we tried using the service with the 46HX820 model). Sony includes a collection of video-streaming staples (Amazon Video on Demand,

CinemaNow, Hulu Plus, Netflix, Vudu, and YouTube); music via Pandora and Slacker Radio; photos through Photobucket, Picasa, and Shutterfly; and the company's own Sony Qriocity service for delivering music and video from Sony's catalog. From there, things get a tad weird, or at least quirky, with apps from the Berlin Philharmonic Orchestra, Concierge.com, Livestrong.com, and Style.com, among others. Though Sony has a large catalog of Internet apps, you probably won't be interested in using most of them. And there are no special remote features to help you navigate your apps and menus—just a basic iOS/Android remote control app. Sony does include a full Web browser, but it's a bit clunky.

Panasonic's Viera Connect smart-TV platform (which we viewed in conjunction with the manufacturer's TC-P50ST30 and TC-L42D30 models) has plenty of promise but a bit less substance than the others—at least for the moment. Viera Connect provides many solid online features—among them, Amazon Instant Video, CinemaNow, Hulu Plus, Netflix, and YouTube streaming video; Skype (camera not included) for big-screen video chatting; a solid complement of sports apps (Fox Sports, MLB, MLS, NBA, and NHL); and a third-party app store (the Viera Market) with a reasonable selection of items. Included in the Viera Market's options are a racing game (Asphalt 5) and support for USB gamepads, but we don't expect to see the Viera Connect replacing your dedicated >>

OUR FAVORITE 5 Smart TV Platforms

PLATFORM	Model-specific features	Pros	Cons	iOS/Android remote app
1 LG Smart TV	Magic Motion Remote included with LV5500, LW5600, LW6500, PZ750, PZ950	Very good service selection; Magic Motion remote makes features easier to access	Third-party app store is underwhelming; browser doesn't support Flash or HTML 5	Both
2 Samsung Apps	Remote comes with D7000 and D8000 series, compatible with D6300 and above	Very good service selection; full QWERTY keyboard on remote makes searching easier	Navigating with standard remote can be annoying; app store not very well populated	Both
3 Vizio Internet Apps	Remote comes with XVT series only	Okay selection; features are easy to access via QWERTY keyboard and configurable profiles	Not as many options for streaming Internet video; no remote app	None
4 Sony Bravia Internet Video	N/A	Very wide feature selection	No special remote features	Both
5 Panasonic Viera Connect	N/A	Good selection (especially for sports)	No special remote features	Both



game console at this point. Overall, the interface is fairly well designed for use with a standard remote, and Panasonic offers iOS and Android remote apps, but Viera Connect is not quite as easy to use as the offerings from LG or Vizio.

3D TVs

Yes, 3D is here, and it's better than ever. Between live broadcasts and 3D Blu-ray discs, much more 3D content is available now than last year, and most TVs priced above \$1000 come with 3D technology built in. What's more, this year's 3D tech is cheaper and easier on the eyes than last year's, so give these sets a chance and you might be pleasantly surprised.

To produce a 3D image, last year's 3D TVs relied on active-shutter glasses, which many TV viewers dislike: The glasses are heavy and pricey, and some people have experienced headaches and eyestrain from using them. Active-shutter glasses have gotten better in all respects since they debuted, but you also have the option now of passive 3D TVs, which use the same light, cheap polarized glasses that 3D movie theaters hand out. So far, LG and Vizio are the only major manufacturers that have released 3D TVs based on passive 3D technology (LG continues to produce active-shutter 3D TVs as well).

Active-shutter glasses consist of a pair of small LCD screens that alternately block out the image in the left lens and in the right lens in sync with the TV. The effect is to show your eyes slightly different images. Your brain reassembles the images to create the illusion of depth—but if your TV and your glasses don't synchronize perfectly, you may see ghosted, blurry images or experience double vision (called "crosstalk"), which

The Vizio

XVT3D650SV is a big (65-inch-diagonal screen) LED-backlit passive-3D HDTV set that is perfect for home movie screenings and carries a relatively low price for the features and image quality it provides.

can be distracting and fatiguing to your eyes. The required gear isn't cheap, either. Early versions of active-shutter glasses cost around \$150 per pair, though re-

cently prices for current versions have fallen to as low as \$50.

Polarized 3D glasses work by blocking out light in different ways for each lens, causing each eye to receive a different half of the image and produce the 3D illusion without depending on any electronics in the glasses. The glasses are light and inexpensive, but the effect comes at a cost in image quality: Each lens blocks out half of the detail in the image, meaning that a 1080p image comes in to each eye at 540p.

Manufacturers of active-shutter 3D TVs argue that passive 3D TVs look far worse because they prevent you from seeing a true 1080p image. Passive 3D makers counter that your brain still receives a 1080p image (since the composite image from both eyes is 1080p). When we tested the two technologies side-by-side, we didn't find a noticeable difference in image quality between the two—and since the polarized glasses are cheaper and more comfortable to wear, we'd recommend getting a passive 3D set if you plan to watch lots of 3D movies.

LG's 47LW6500 impressed our testers with excellent 3D depth and crisp image quality. If you doubt the image quality of passive 3D sets, watch the 47LW6500 side-by-side with an active-shutter TV before buying. The 47LW6500's biggest flaw is that dimly lit scenes tend to look too bright, so consider turning down the brightness level prior to watching 3D content.

Samsung's UN46D8000 active 3D set finished a close second to the LG 47LW6500 in our testing. It has good 3D depth, though the depth it conveys is slightly subtler than that of the 47LW6500 or 50PZ950. This set excels at creating 3D effects without sacrificing color or contrast. Dark scenes that tripped up the other sets in this lineup looked splendid on the UN46D8000. Other sets might make you think "Wow, this looks 3D," but the UN46D8000 is a rare set that can convince you this 3D thing isn't just a marketing gimmick.

The LG 50PZ950 is a fine example of this year's improved active-shutter 3D sets. The difference between foreground and background was pronounced yet not overdone, extreme-foreground effects (like the floating seeds in *Avatar*) popped very well, and we saw little crosstalk. The 50PZ950 skewed slightly bright in darker scenes, like the LW6500, so keep this in mind if you're thinking about calibrating your set yourself. If you're going to buy an active 3D TV, the 50PZ950 makes a very compelling case for going for a big, pretty plasma set.

Sony's active 3D 46HX820 performed very well in our tests, showing good depth. In some instances, the 46HX820 picked up 3D details that the other sets missed entirely. For example, the floating mountains in *Avatar* typically don't look especially three-dimensional because they appear as big landscape shots with little in the foreground. But on the 46HX820, details like the smudges on the helicopter cockpit were more visible, giving the scene depth that many other TVs did not.

Compared to the other TVs on the list, Vizio's XVT3D650SV had slightly less depth; and subtle foreground effects (the rain during the introduction to *Resident Evil: Afterlife*, for example) looked less crisp on this set than they did on the others. The XVT3D650SV still looked good, however, and considering what you get, it's a bargain. This 65-inch LED-backlit 3D television can be had for about \$2600. If you want to create a cinematic 3D experience in a large living room but you don't have a big budget, this is the set for you. ●

OUR FAVORITE 5 TVs for 3D Viewing

MODEL	3D type	Pros	Cons
1 LG Infinia 47LW6500 find.pcworld.com/72254	Passive	Very good depth; doesn't appear to sacrifice detail	Darker scenes look a bit too bright
2 Samsung UN46D8000 find.pcworld.com/72253	Active	Good depth; very low crosstalk; great color	3D effect rather understated in some scenes
3 LG Infinia 50PZ950 find.pcworld.com/72256	Active	Very good depth; mild crosstalk; excellent image quality	Darker scenes look a bit too bright
4 Sony Bravia 46HX820 find.pcworld.com/72255	Active	Good depth; brings out 3D details that other sets can miss	Not as deep as top sets; more crosstalk than other active sets
5 Vizio XVT3D650SV find.pcworld.com/72257	Passive	Good depth; very inexpensive for a big 3D set	3D image showed slightly less depth than others

The Right Way to Buy a Cheap TV

AT SOME DEAL sites, you can find a 40-inch, 120Hz, LED-edgelit 1080p TV from a smaller-name company for about \$500. So why should you pay significantly more for an LG, Panasonic, Samsung, Sony, or Vizio model?

Unfortunately, HDTV specs mean less than you might think. Having LED lighting or a 120Hz refresh rate doesn't ensure that a set from a second-tier vendor can match the image quality of models from the big five TV makers. In our tests, cheaper sets tended to stumble, especially when dealing with color accuracy or motion-heavy scenes. Also, very few TV manufacturers outside the big five offer 3D or Internet-connected features at all; and on the rare occasions when they do, the features typically are subpar.

But buying a big, cheap TV doesn't have to mean tolerating inferior picture quality. Here are some tips for stretching your TV dollar without settling for an off-brand TV.

Wait for seasonal models: Some of the big television manufacturers release seasonal TV models aimed at hitting low prices for the holiday shopping season. At deal-aggregator sites, you may find a 40-inch plasma set, with a few bonus features, priced as low as \$600. These sets won't look as good as the more expensive models, but they'll still beat off-brand sets in image quality.

Buy last year's TVs: The Consumer Electronics Show takes place right after the holiday shopping season, and that's where TV manufacturers make most of their big announcements for the year. But the new models usually don't reach stores until March at the earliest, and lots of the previous year's TVs get priced at a discount during January and February. They won't come with fancy connected TV features or the latest 3D glasses, but they will be good TVs at bargain prices. Image quality rarely changes much from year to year, so don't worry about getting left behind. For example, Samsung's PN50C6500 50-inch plasma set (find.pcworld.com/72275) from last year held its own in our image-quality testing against various 2011 TVs (both plasma and LED-backlit LCD).

Don't forget about plasma: LED-backlit HDTVs may be hot today, but LG, Panasonic, and Samsung still turn out plasma HDTVs that are larger and less expensive than LCD/LED sets while producing comparable image quality. Just remember that plasmas cost more to operate than LCD/LED HDTVs, and that if the room you plan to put the TV in gets a lot of light, a plasma set won't look as good.

SEE WHY 1 MILLION+ GEEKS BOUGHT NOTEBOOKS FROM US.



Amazing performance.
Stunning visuals.

Visibly smart 2nd generation
Intel® Core™ processors.



Scan here
with your
mobile device



Newegg.com 16 Million+ Geeks, 2 Million+ Reviews.
Come for the great reviews. Buy for the great prices.

TAKE IT FROM A GEEK.™



Whether it falls out of your pocket in a cab, or you leave it unattended

in a public place for a few seconds only to have it swiped by someone with sticky fingers and low moral fiber, your phone is vulnerable. In fact, according to a report from security software company Symantec, 36 percent of U.S. consumers have had a cell phone disappear on them.

If that phone is a smartphone—or if the missing item is another valuable mobile device such as a laptop or a tablet—thieves will be even more motivated to do their dirty work. And misplacing your gear or having it stolen is more than just a hassle: Given the amount of information that people store on their devices, losing a gadget may very well mean not only losing your files, contacts, and photos, but also seeing your identity stolen.

What can you do? Start by following these simple steps before your favorite tech goodies go MIA. Although we can't guarantee that you'll get your missing phone, laptop, or tablet back, we can at least help you ensure that no unauthorized person starts peeking at your most personal details, and we can help you increase the odds that your gadget will return to you.

Preventive Protection

Use a password: The first step in securing your laptop, phone, or other mobile device is to put a password on it. Needing to enter a password whenever you use your phone may seem inconvenient, but you'll appreciate having taken the precaution should the device fall into the wrong hands.

On iOS, you can assign a four-digit PIN to keep your iPad or iPhone from being unlocked easily. If you own an Android phone, you can choose either a PIN or a pattern. With a pattern, you unlock your device by drawing a simple shape on the screen. For both Android and iOS, these security options reside under the 'Settings' menu. For most Android devices, the option to add a PIN or pattern appears under 'Location and Security'. On iOS you'll find the option to set a PIN under 'General', then 'Passcode Lock'.

Remember not to choose an excessively simple PIN like

0000 or 1234. You don't want to make it unduly easy for anyone other than yourself to access your assorted devices.

In addition, always lock your laptop's screen when you step away for any period of time, to keep prying eyes from peeping at your work. In Windows, hold down the <Windows> key and press the L key; that will take you to the login screen.

In Mac OS X, open Keychain Access in your Utilities folder (or do a Spotlight search for it), and within the Keychain Access menu, select *Preferences*. From there, check the box labeled *Show keychain access in the menu bar*. A lock icon will appear in the menu bar; that icon will allow you to lock your password keychains, as well as your screen.

Use security software on your

smartphone: Even though PINs, patterns, and passwords are a good first line of defense, you'll need much more to keep your data safe. In fact, one of the first things you should do when you purchase a new phone is to install a mobile security suite.

On Android, apps such as Lookout Mobile Security, Norton Mobile Security, Seekdroid, and Webroot Mobile Security let you remotely locate your absent device, lock it, or wipe all data from it. Some of these apps also include antimalware and phishing safeguards, so you'll be protected even in your day-to-day activities. Seekdroid costs \$1, while the rest of the listed mobile security suites are free (you will have to pay extra to unlock all of their features, however).

Apps for iOS are more limited. We recommend that you install the Find My iPhone app on all of your iPads, iPhones, and iPod Touches. After installing the app, you can use your Apple ID to sign in to Me.com, which will open to a map showing your iOS device's approximate location, as well as options for displaying a message on the lost hardware, remotely locking it, or remotely wiping it. Find My iPhone does require a little setup (find.pcworld.com/72237), but operation is straightforward once you have it working.

The only drawback to Find My iPhone is that it's easy to disable, whereas several of the Android security suites we've mentioned will either request a password or hide the app. We're hoping that you followed our earlier advice and set up



lookout™
MOBILE SECURITY

Upgrade to Premium Account Feedback Help Logout

Dashboard Security Backup Missing Device Settings

Everything is OK!

Security PROTECTED
Your last security scan was 6 days ago.
Security Activity

Backup UP TO DATE
Your last backup was about 1 month ago.
Backup Restore

Missing Device READY
Find My Phone

Recent Activity
September 10
You successfully updated your software to version 8783.

Droid Incredible

Droid (Disabled)

Android (Disabled)

Add New Device

The Lookout Web portal lets you remotely track a lost Android phone.

a PIN on your device to prevent people from getting into it and then uninstalling the security app.

Track your laptop: You can hunt down a lost laptop in much the same way that you track a missing smartphone. Consider investing in LoJack for Laptops (find.pcworld.com/72238), a subscription service that makes it easier for both you and law enforcement to find your laptop. The service permits you to track the notebook's location (some plans track only IP addresses, while others track by using GPS), lock it so that nobody can access the data, remotely wipe the hard drive, and perform other tasks. LoJack requires a piece of software that you install on your computer; versions are available for Windows and Mac. Plans start at \$40 per year.

If you prefer tracking your laptop yourself, try out Prey (preyproject.com), which installs a small piece of software on your computer that lets you track the system's location via an online control panel. You can also capture screenshots of your laptop if it goes missing (to gather information about a thief), take a photo using the built-in webcam, sound an alarm (useful if you misplace your laptop nearby), remotely lock the computer, and more. The Prey software runs on Windows, Mac OS X, Linux, and Android; installation is fairly straightforward.

The free version of Prey allows you to monitor up to three devices (computers or Android-based phones), and the various "Pro" account options range in price from \$5 for a personal account to \$400 for a large business.

At this writing, Apple was working on Find My Mac, which is similar to Find My iPhone but for Apple laptops. Find My Mac

may be available by the time you read this.

A word of caution: Privacy concerns about device-tracking products have begun to emerge. Shortly before we went to press, a judge ruled that a woman in Ohio could sue Absolute Software, makers of LoJack for Laptops, for allegedly infringing on her privacy after she had unknowingly purchased a stolen laptop (see find.pcworld.com/72239 for further details). So if you decide to use a device-tracking product on your gear, be sure to use it responsibly.

Lock your laptop: A physical lock isn't foolproof, but it will help prevent someone from swiping your machine off your desk. Companies such as Kensington (us.kensington.com) and Targus sell assorted products that attach to or link through the lock port on most laptops. One from Targus even has an alarm that sounds when someone picks up your laptop.

Label your device: If you're feeling optimistic that your gadget will fall into the hands of a person with a conscience, you can use a service such as BoomerangIt (boomerangit.com) or StuffBak (stuffbak.com). With both services, you attach a coded label to your device; the label encourages anyone who finds the gear to go to the BoomerangIt or StuffBak website and follow the instructions to report the recovered item. You can also stipulate a monetary reward on the label, which should improve the odds that the finder will do the right thing.

Back up your phone or tablet data frequently: If you're using some flavor of Android, remember that Google backs up most of the basic phone and tablet data (contact lists, email messages, app purchases) and stores it online for you. Focus >>

Devices Settings Account Troubleshooting Logged in as [user] Logout

Managing [device icon]

Currently ok, 0 reports so far

PREY
control panel

Need some help?

This page allows you to manage your device's settings as well as Prey's. If your device ever gets out of sight, you'll need to quickly return here and mark it as missing. This way Prey will begin to work its magic. You can also activate different modules and check if there are new reports to be seen.

If you have any questions, just [ask](#).

Device information

Owner: [redacted]
 Status: OK
 Device type: Laptop
 Operating system: Mac
 Key: [redacted]

Save changes

Main Configuration Hardware Reports (0)

Current status

Missing? NO

Activation mode **PRO** ON INTERVAL ON DEMAND

Frequency of reports/actions 20

Information to gather

Select the data you wish to gather from your device on each report from Prey. This **doesn't have any effect unless the device is marked as missing.**

Actions to perform

Choose the actions you wish to perform remotely on your device. **Important:** Only actions running Prey version 0.4 or higher, they will run whether it is set as missing or not.

Prey, for computers and Android phones, will track items, lock them, and more.

on backing up photos, videos, and any documents or files you may have downloaded; those items generally aren't synced to Google's servers, so it's up to you to keep regular backups.

A good app for safeguarding your entire device is MyBackup Pro (\$5), which backs up every file on your gadget and saves it to your SD Card or to an online storage service. If you save the backup data to an SD Card, make sure to keep the card in a safe place, and don't use it as your primary storage. That way, if your device disappears forever, you can just plug the SD Card into your new gadget and restore all of your lost information.

iOS owners have it slightly easier. Every time you sync your iPhone or iPad to iTunes, you create a backup of your device on your computer. The backups contain all of your app data, as well as your settings, pictures, music, movies, and books. Restoring an iDevice is as easy as plugging it in and selecting *Restore*. iOS 5, which Apple had not yet released as we went to press with this issue, should automatically sync your phone or tablet via iCloud, Apple's upcoming personal online storage service. Until iCloud arrives, you will have to sync your data manually.

Recovering a Lost Gadget

If the worst does happen and you lose your phone, tablet, or laptop, don't panic. Just take a deep breath, and then follow these steps to hunt it down and protect yourself.

Change all of your passwords: This is the very first thing you should do after losing any device containing valuable data. Start with your email password—once thieves have access to

Find My iPhone can track a missing Apple iOS device, and erase it if necessary.

your email, they can easily break into all of your other online accounts by resetting your various website passwords.

While you're at it, now might be a good time to revisit your approach to passwords, making them stronger—and easier to remember in the process. See *PCWorld's* tips for building better passwords at find.pcworld.com/72235.

File a police report: Once you have changed your account passwords, file a police report for your missing tech. Be sure to mention any identifying features (say, engravings or other customizations), as they will help other people recognize your device. You might also want to alert any local pawnshops in case someone tries to sell it for a quick buck, though this step may be time-consuming.

Track your gadget: If you have installed recovery software on your gear, activate it and use it to gauge your device's location. For most tracking products, this means logging on at the service's website and tracking your wayward gadget via the control panel. At this point, it's entirely up to you whether to pursue your device or just give it up for lost and wipe it remotely.

On iOS, a remote wipe will erase all content on the device. Wiping an Android phone or tablet will clear most of the user data, but SD Cards and other pieces of external media will remain untouched; keep that in mind if you store a lot of critical information on your SD Card.

Turn to Plan B: What if you didn't install any recovery software? Are you out of luck? If it's an iOS device, probably yes. But Android users can still take action. Thanks to the Web-based Android Market, you can remotely install recovery software to your phone or tablet, even if it is no longer in your possession. For instance, in addition to its mobile security suite, Lookout offers the aptly named Plan B (find.pcworld.com/72236). You remotely install the app through the Web-based Android Market, and it begins to run auto-

matically, sending email messages to your Gmail account with a map showing where your equipment is. Don't rely on this app alone, though: Consider Plan B only as a last resort, rather than as your primary or sole line of defense.


So get to it! Something as simple as downloading and installing a basic security program or locking your laptop doesn't take much effort. And you never know: A ten-dollar app could end up saving you thousands in the long run. ●

STARTING OVER WITH A NEW PHONE OR LAPTOP

LET'S SAY THAT despite following our suggestions, you've lost your valuable mobile tech and you're resigned to the fact that the device will never come back to you. Yes, it's time to start from scratch. Fortunately, securing a new laptop, tablet, or smartphone will be a relatively quick and painless affair. But even before you begin to set up your new device and install any of the apps we recommend elsewhere in this article, consider taking two actions.

1 Contact your carrier: If your missing phone, tablet, or laptop used a SIM card, make sure that your wireless carrier has deactivated or locked it. That move will prevent other people from simply pulling the SIM card out of your locked device, inserting it into their own, and then shamelessly racking up charges to your account. This tip also applies to LTE (4G) phones on Verizon, as well as to so-called world phones (handsets that work outside the United States), since they also carry SIM cards. Be sure to explain to your carrier that your device was stolen; it may be helpful to bring along a copy of the police report you filed, in case you need to dispute any charges.

2 Keep an eye on your financial statements: If evildoers succeeded in rummaging through your data before you could wipe or lock your device, they may have snagged some of your personal financial information. If you did any online banking or shopping on the lost device, change the passwords for those accounts immediately. Check your credit reports by visiting annualcreditreport.com, and be ready to put out a fraud alert at the first signs of trouble. You might also wish to cancel any credit cards that you used on the device, as they may have been compromised.



*It's more than a meeting point.
It's a catalyst for success.*

Half of realizing a new idea is having the right people in the room.
Make a connection that will spark tomorrow's innovations.



THE GLOBAL STAGE FOR INNOVATION



Tuesday, January 10–Friday, January 13, 2012
Las Vegas, Nevada | CESweb.org



REGISTER NOW

Game On

SPECIAL SUPPLEMENT
Powered by GamePro
and PCWorld



Gear Up for Gaming: Pick the Right Desktop PC

Today's PC games demand serious graphics power. We've tested the newest gaming rigs and selected eight great systems that are priced from \$600 to a stratospheric \$6000.

BY NATE RALPH

AS WE MOVE into fall and inch closer to the holiday season, it's a good time to consider your next computer upgrade. You don't want to be left out as all of the exciting new PC game releases land, do you?

Fortunately, the desktop PCs category is full of attrac-

tive options for gamers. Here is a sampling of machines equipped with the latest and greatest hardware, tailored to a wide range of budgets.

A Little More Than Just the Basics

We'll start at the low end, with a budget desktop that breaks the budget mold. The **Micro Express MicroFlex 23B** (find.pcworld.com/72068) will

set you back only \$600, yet it delivers plenty of gaming and general-computing prowess. The specs aren't especially impressive, but they get the job done: Under the hood are an Intel Core i3-2120 processor, 4GB of RAM, and a 500GB hard drive. The MicroFlex 23B earned a score of 141 on our WorldBench 6 testing suite, moving to the top of our current budget-desktop rankings (see find.pcworld.com/70016).

The MicroFlex 23B's AMD Radeon HD 6670 graphics card is an inexpensive component but a stalwart performer,

▲ **IN TESTS WITH** the graphics-intensive S.T.A.L.K.E.R.: Call of Pripyat, the Origin Genesis hit 101 frames per second.

as it achieved 42.6 frames per second on our Unreal Tournament 3 tests, at a resolution of 2560 by 1600 and the highest settings. A bit of perspective here: Those were the most demanding possible settings, on a huge, 30-inch monitor.

You will need to scale the settings down for higher-end games, of course, but the MicroFlex 23B makes for a compelling investment if >>

your needs aren't particularly demanding. The PC also includes a Blu-ray drive, which is pretty much an anomaly in the budget-desktops market.

If you want a gaming rig to tote around, look at the aptly named **V3 Move 3DS** (find. pcworld.com/71644). At \$1099, this tiny (less than 7 by 9 by 11 inches) tyke provides satisfying gaming performance in a portable shell. Beneath the hood, you'll see a cramped interior loaded with features that V3 managed to pack in without making the kinds of sacrifices we usually encounter in machines this small.

The company has over-clocked the Intel Core i3-540 processor to a staggering 3.82GHz, but liquid cooling keeps the temperature (and decibels) in check. You'll also find 4GB of DDR3 RAM, over-clocked from 1600MHz to 1660MHz. The 500GB hard drive is a bit skimpy, as we're used to seeing 1TB drives and



THE MICRO EXPRESS MicroFlex 23B performed extraordinarily well for a budget machine in our Unreal Tournament 3 tests.

beyond, but the Move 3DS's is a 7200-rpm laptop drive—speedy, small, and silent.

The Move 3DS was built for gaming, and it doesn't disappoint. On our Unreal Tournament 3 benchmark (highest settings, at a resolution of 2560 by 1600 pixels), the system's Nvidia GeForce 460GTX

graphics card achieved an excellent frame rate of 86.2 frames per second. And in our Dirt 2 test, it reached 54.8 fps.

I Scoff at Your System Requirements

Moving up the chain, here's a mainstream desktop for gamers who have put away a little

extra. Priced at \$1849, the **Maingear Vybe Super Stock** (find. pcworld.com/71642) offers a Core i5-2500K processor, over-clocked to a staggering 4.8GHz. Add 8GB of RAM and a 60GB solid-state drive (as well as a 1TB storage drive), and it's no wonder the Vybe Super Stock reached a lofty score of 207 on our World-Bench 6 benchmark suite.

Gaming performance comes courtesy of a single Nvidia GeForce GTX 570 graphics card. On our Call of Duty benchmark, it generated 79 frames per second—once again, at the highest possible settings on a massive 30-inch monitor. Maingear's Vybe Super Stock is fairly small as cases go, but it still sets aside a bit of upgrade room should you decide to toss in a second graphics card later on.

We also looked at another offering from Micro Express: the \$849 **MicroFlex 25B** (find. pcworld.com/71643). It uses a



MAINGEAR'S FAIRLY COMPACT Vybe Super Stock handled Call of Duty effortlessly.

3.3GHz Intel Core i5-2500K processor overclocked to 4.1GHz. Stuffed with 4GB of DDR3-1600 memory, the system breezed through our WorldBench 6 suite, achieving a superb score of 188.

Unfortunately, even though the MicroFlex 25B delivers phenomenal performance for a very low price, not all is well here. The PC's total amount of storage available is 300GB, in the form of a Western Digital Velociraptor drive. But that's nothing short of a horrible tease for would-be buyers: Here you have a system that's ready to steam through whatever games and apps you toss at it—and you won't be able to install much of anything.

That said, the MicroFlex 25B is well equipped to handle any modern game titles you might want to try. Armed with an AMD Radeon HD 6870 graphics card, it was able to dish out 112.5 frames per second on our Unreal Tournament 3 benchmark (highest settings, 2560 by 1200 resolution).

Gaze Upon My Mighty PC, and Tremble

The gamer who has it all (and wants a little more) should skip straight to the top of the performance-desktop category and take a look at the **Origin Genesis** (find.pcworld.com/71506). What does \$6400 get you? The best performance we've seen, for eight months and counting. Origin took the everything-and-the-kitchen-sink approach with this behemoth: The Core i7-2600K processor is overclocked to 5GHz, kept in check (and surprising-

ly quiet) by means of an extensive liquid-cooling array. You'll also find 16GB of RAM, a pair of 128GB solid-state drives in RAID 0, 2TB of storage, and three Nvidia GeForce GTX 580 graphics cards.

Our benchmarks? Utterly ravaged. The Genesis earned a killer WorldBench 6 score of 233, and reached 101 frames per second in the graphics-intensive S.T.A.L.K.E.R.: Call of Pripyat. Honestly, when the time came to ship it back, we were sad to see it go.

The tech mavens at Alienware are no strangers to potent hardware. They've offered up the **Alienware Aurora** (find.pcworld.com/72070), a \$2600 monster bedecked in customizable lights. Smooth corners, shiny exhaust ports, and a suite of customizable LED panels are clearly meant to make the Aurora look cool, and for better or worse the effect works: Despite the comparatively weak components loaded into our review machine, we couldn't help feeling as though we were playing with power each time we turned the computer on.

The Aurora packs a 3.4GHz Core i7-2600 processor, 4GB of DDR3 RAM, and a 2TB hard drive. We've grown accustomed to seeing speedy solid-state drives at this price, as well as a bit more RAM, but Alienware offers plenty of customization options, if you are willing to pay for them.

Dual AMD Radeon HD 6950 graphics cards running in >>

A Tale of Two Graphics Cards

PICKING UP A new graphics card can be one of the most effective ways to boost your PC's performance. For gaming, you have two major players to choose from: AMD and Nvidia. Both companies offer a wide range of boards; for our purposes here, we'll look at two of their higher-end wares.

In AMD's corner is the **Radeon HD 6970**, which you can find for about \$340. In Nvidia's corner is the **GeForce GTX 570**, which will set you back just a bit less—roughly \$320.

The GTX 570 ultimately came out ahead in our benchmarks, but the margins were generally fairly slim. In *Just Cause 2*, the GTX 570 achieved 47 frames per second at 1920 by 1200 resolution, under the highest possible settings with 4X anti-aliasing. The HD 6970 reached 41 fps at the same settings. Close, sure—but the difference in price, coupled with driver support for the games you want to play, may be enough to tip the balance in either card's favor.



IN OUR GRAPHICS tests, Nvidia's GeForce GTX 570 (top) narrowly surpassed AMD's Radeon HD 6970.

As for power consumption, AMD's card consistently used fewer watts per average frame per second in our tests, cranking out results comparable to

those of the GTX 570 while using about 11 percent less energy.

The HD 6970 serves up a pair of mini DisplayPort 1.2 connectors, two DVI ports, and an HDMI 1.4a connector. The GTX 570 has only two DVI ports and an HDMI port. And AMD's Eyefinity technology will let you run up to three displays on one graphics card, a feat that Nvidia can't match.

All told, the \$20 price difference represents a trade-off between eking out the last few frames on graphically intensive games or having a bit more versatility in display options. With the GeForce GTX 570, Nvidia holds on to its performance crown. In the Radeon HD 6970, however, AMD offers an impressive, well-rounded value that's tough to beat.

CrossFire are sandwiched into the case next to an 875W power supply. Alienware has gone the extra mile to fit two full-size graphics cards into a compact midsize tower, and despite the paucity of available RAM, our review machine consistently delivered 183 frames per second in Unreal Tournament 3 at 2560 by 1600 pixels with maxed-out settings.

But let's be a little more pragmatic: The **V3 Convoy** (find.pcworld.com/71862) is well within the reach of mere mortals, a performance desktop that will set you back "only" \$2500. It doesn't offer the bells and whistles that Origin's juggernaut does, but it will let you glide through the latest games and still keep up with your mortgage payments. The Convoy's Core i7-2600K is also overclocked to 5GHz, but the PC couples that CPU with a comparatively meager 4GB of RAM, and a pair of 64GB SSDs in RAID 0 (with a 2TB drive for storage).



WITH A Core i7-2600K CPU overclocked to 5GHz, the V3 Convoy flew through Unreal Tournament 3.

The results were excellent: a mark of 204 on our World-Bench 6 suite, and a superb frame rate of 224 frames per second on our Unreal Tournament 3 benchmark.

Digital Storm has produced slick and powerful machines in the past, but the **Digital Storm ODE** (find.pcworld.com/72187) just may be the best buy of them all. Priced at

\$1499—and sporting a glossy white, slightly rounded case that would look right at home at Aperture Science—the ODE is a true bargain for performance PC enthusiasts.

The ODE carries a 3.4GHz Core i7-2600K processor that leaves you plenty of freedom to overclock. You also get 8GB of DDR3-1600 RAM, with room to insert a couple of additional

sticks later on if you want to.

You won't find yourself running short on space either, as the ODE provides both a 1TB hard drive for storage and an 80GB solid-state drive for pure speed. And to supplement those, the system has four open bays where you can add drives to your heart's content.

Great computing power requires serious voltage to keep everything running smoothly. Digital Storm includes a Corsair 800W power supply with enough juice to run whatever you add to the PC in the future.

In our WorldBench 6 suite, the ODE earned a score of 198—an outstanding mark for a system of its price.

The ODE simply dominated our Far Cry 2 graphics benchmarks, sustaining a frame rate of 103 frames per second on high quality settings at a resolution of 2560 by 1600 pixels. That fantastic result is attributable to the pair of Nvidia GeForce GTX 560 Ti graphics cards running in SLI. >>

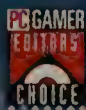


IN OUR Far Cry 2 benchmarks, the attractively priced Digital Storm ODE produced outstanding results.

Windows®. Life without Walls™, CyberPower recommends Windows 7



Join us on
facebook



Gamer Xtreme 8800 Pro SE

Intel® Core™ i7 Processor

Genuine Microsoft™ Windows® 7 Home Premium 64-bit Edition Service Pack 1

Gigabyte® X58A-UD3R USB3.0 & SATA 3 Mainboard

Corsair® 12GB DDR3 1333 Triple Channel Memory

2TB SATA III DATA HDD

Nvidia® GeForce® GTX 570 1.2GB Direct X 11 Video

AZZA Genesis 9000 Full Tower Case 800 Watt Power

Asetek Liquid Cooling System

Nvidia® 3D Vision Glass and LCD + \$499



CORE™ i7

Visibly Smart

Intel® Core™ i7 Processor

i7	(8MB L3 Cache, 1066Mhz)	
	Extreme i7-990X 3.33Ghz	\$ 2099
	i7-980 3.33Ghz	\$ 1619
	i7-960 3.20Ghz	\$ 1319

From

\$1319

All Desktop systems come with 3 year Limited Warranty + lifetime toll free techsupport

Order Toll Free
800-707-0393

www.cyberpowerpc.com

Cyber **POWER** Inc. YOUR UNLIMITED GAMING SOLUTIONS

Unleash THE POWER



Gamer Xtreme 1000

Intel® Core™ i7 Processor

Genuine Microsoft™ Windows® 7 Home Premium 64-bit Edition Service Pack 1

Gigabyte® Z68AP-D3 Mainboard w/ USB 3.0 & SATA 6

Corsair® 8GB DDR3 1333 Dual Channel Memory

1TB SATA-III 6.0Gb/s 32MB Cache 7200RPM HDD

Nvidia® GeForce® GT 520 1GB Video Card

Raidmax Blade Gaming Case 600 Watt

Asetek Liquid Cooling System

Intel® Core™ i7 Processor		Intel® Core™ i3 Processor	
i7	(8MB L3 Cache, 1066Mhz)	i3	i3-2105 3.10Ghz \$ 565
	i7-2600K 3.40Ghz \$ 785		From \$565
	i7-2600 3.40Ghz \$ 759		
i5	i5-2500K 3.30Ghz \$ 679	From \$815	
	i5-2500 3.30Ghz \$ 669		
	i5-2400 3.10Ghz \$ 656		
	i5-2300 2.80Ghz \$ 645		



Gamer Xtreme 3000

Intel® Core™ i7 Processor

Genuine Microsoft™ Windows® 7 Home Premium 64-bit Edition Service Pack 1

Gigabyte® Z68AP-D3 Mainboard w/ USB 3.0 & SATA 6

Corsair® 8GB DDR3 1333 Dual Channel Memory

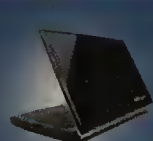
2TB SATA-III 6.0Gb/s 64MB Cache 7200RPM HDD

Nvidia® GeForce® GTX 560 1GB Direct X 11 Video

CoolerMaster HAF 912 Gaming Tower Case with 700 Watt Power

Asetek Liquid Cooling System

Intel® Core™ i7 Processor		Intel® Core™ i3 Processor	
i7	(8MB L3 Cache, 1066Mhz)	i3	i3-2100 3.10Ghz \$ 815
	i7-2600K 3.4Ghz \$ 1035		From \$815
	i7-2600 3.4Ghz \$ 1015		
i5	i5-2500K 3.30Ghz \$ 929	From \$707	
	i5-2500 3.30Ghz \$ 919		
	i5-2400 3.10Ghz \$ 905		
	i5-2300 2.80Ghz \$ 895		



Gamer Xplorer X6-9200

Intel® Core™ i7 2630QM Processor

Intel® HM67 Chipset

802.11 B/G/N Wireless Network

Genuine Microsoft™ Windows® 7 Home Premium 64-bit Edition Service Pack 1

8GB DDR3 PC1333 Memory

500GB SATA150 Hard Drive

15.6" Full HD 1920 X 1080

Nvidia® GeForce® 540M 2GB Direct X 11 Video Card

1000/100/10 Network Card

Free Carrying Case



Intel® Core™ i7 Processor		Intel® Core™ i3 Processor	
i7	2920XM \$1702	i3	2310M \$707
	2820QM \$1158		From \$707
	2630QM \$799		
i5	2410M \$762	From \$707	

NVIDIA®, GeForce®, SLI™ are trademarks or registered trademarks of NVIDIA Corporation or its subsidiaries in the United States and other countries. CyberPower PCs use genuine Microsoft® Windows® • www.microsoft.com/piracy/howtotell. Intel®, Celeron Inside, Centrino, Centrino Inside, Centrino Logo, Core Inside, Intel, Intel Logo, Intel Core, Intel Inside, Intel Inside Logo, Intel Viviv, Intel vPro, Itanium, Itanium Inside, Pentium, Pentium Inside, Viviv Inside, vPro Inside, Xeon, and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries. All prices are subject to change without notice or obligation. CyberPower is not responsible for any typographical and photographic errors. Copyright ©2008 CyberPower. All rights reserved.



World of Tanks



Alien Swarm

The **20** Best PC Games

BY GAMEPRO STAFF

THE PC HOSTS an extensive variety of terrific games, from massively multiplayer titles to first-person shooters. The following games—all available on shelves right now—deserve a place on your hard drive.

Alien Swarm

In the free-to-play top-down shooter Alien Swarm, you work with up to three other people to enter off-world colonies, cleanse them of alien intruders, and rescue their human inhabitants. With customizable weapons and many items to find, Alien Swarm is a fun, old-school arcade blaster that offers the additional benefit of running well on older computers. If you have even the slightest interest in blowing away teeming hordes of aliens with a few buddies, you really have no reason not to play it.

Amnesia: The Dark Descent

Set in a haunted mansion, Amnesia (\$20) is a single-player first-person adventure that focuses on exploration. Staying alive and keeping your sanity are your objectives in this fright-fest, which requires both puzzle solving and sneaking around, avoiding confrontation with the deadly denizens. You're defenseless in a house full of monsters that you almost never catch more than a glimpse of. With gory graphics and top-notch, atmospheric sound, this game is one of the finest interactive horror experiences that money can buy.

Assassin's Creed: Brotherhood

The third Assassin's Creed game, Brotherhood (\$40) is set in Rome, probably the deepest and most visually rich setting in the series so far. Plus, it includes a novel

multiplayer mode that pits players against one another: Each receives a contract on another player and is tasked with ferreting out their quarry from the crowd while trying to conceal their own identity from whoever is stalking them. The plot might leave a few too many of the franchise's mysteries unsolved, but as far as gameplay goes, this assassin hits his mark.

Batman: Arkham Asylum

The Caped Crusader has a checkered past when it comes to video games, but Arkham Asylum (\$20) isn't just one of the best Batman games—it's one of the best games of the past five years. The action is stealth-based: Batman must sneak around, using his gadgets and his fists to get the drop on foes. Featuring fluid combat that incorporates a large repertoire of moves, and

offering gameplay that favors lateral thinking over simple twitch reactions, Arkham Asylum is a mature title that is rewarding and enjoyable.

Battlefield: Bad Company 2

The Battlefield series of military first-person shooters is well regarded for its fun, intense multiplayer option. Bad Company 2 (\$20) includes unique and varied situations and objectives, where players must contend with challenges such as timing sniper shots to coincide with thunderclaps to mask detection, or strategically sequencing explosions to collapse a building on enemies. The squad-based online multiplayer is a great bonus.

Bejeweled 3

Simple in concept but fiendishly addictive, the Bejeweled series is a hugely successful puzzle-gaming franchise >>

What would you do with \$25,000?

PCWorld *presents the* DREAM OF A LIFETIME SWEEPSTAKES

Enter the Dream of a Lifetime Sweepstakes for a **chance to win \$25,000** or one of these great prizes such as a Golf Trip to Pebble Beach,

a Ford Mustang Convertible, a Honda Gold Wing Motorcycle, a trip for four to Ireland, a cruise on the Queen Mary 2, a 10-day Galapagos Family Odyssey, an HDTV, a Panasonic camcorder, a Dell Laptop, a Sony PC, a Bose Home Theater System and many, many more...

To see a complete list of prizes and official rules, visit:
find.pcworld.com/70974



*Enter online**
find.pcworld.com/70973



*NO PURCHASE NECESSARY TO ENTER OR WIN. Sweepstakes ends 1/31/12. Only legal residents of the 50 United States or the District of Columbia 18 or older can enter from this website. All others see Official Rules for details on alternate entry method. Void where prohibited by law. FORD® and MUSTANG® are registered trademarks of Ford Motor Company.





Fallout: New Vegas



Crysis 2

that has sold more than 75 million copies worldwide. Bejeweled 3 (\$20) doesn't mess with the winning color-matching formula; instead, it adds eight different game modes, a quest mode among them. Not every one of the additions is a hit, but most of them introduce new goals and mechanics that are just as captivating as the original.

Borderlands

Set on a world torn apart by vicious monsters and sadistic bandits, *Borderlands* (\$20) is a first-person sci-fi shooter that blends action with role-playing-style character development (you improve your skills based on the experience you earn from completing quests and slaying baddies). With four characters that you can tailor to suit your playing style, and literally millions of weapons and tons of loot to discover as you traipse across the wasteland (or tool around in weapon-bearing dune buggies), *Borderlands* is huge fun and wonderful to look at.

Bulletstorm

Notorious for its foul-mouthed dialogue and cartoonish ultra-violence, *Bulletstorm* (\$20) is a first-person shooter that's fairly formulaic at its heart, but its terrific visuals and insane action take things to a whole new level. The game rewards you for pulling off stylish kills, which is surprisingly easy and fun thanks to the array of crazy weaponry that you get. Definitely not a game for children, *Bulletstorm* sets a new high (or low, depending on your viewpoint) for over-the-top action.

Call of Duty: Black Ops

An installment in one of the most successful modern-day franchises, *Call of Duty: Black Ops* (\$50) is an exceptionally realistic and intense first-person shooter. The player goes on Cold War missions in Russia, Cuba, Laos, and Vietnam as a covert operative. Judging from the stunning graphics, visceral action, and varied gameplay, it's easy to see why COD is so popular.

And when you get bored with the single-player mode, you can go up against other COD fans in the multiplayer mode.

Crysis 2

Boasting jaw-dropping visuals, *Crysis 2* (\$40) is a first-person shooter set in a ruined New York City, which is under martial law following an alien attack. The player takes a central role in reclaiming the Big Apple, working with a team of commandos whose nanosuits imbue them with superhuman powers. Offering a story as striking as the graphics, *Crysis 2* is a showcase of PC action gaming.

Fallout: New Vegas

In 2008, publisher Bethesda Softworks revived the nuclear wastelands of the *Fallout* series with the release of *Fallout 3*. Featuring a huge environment filled with characters and places to explore, the follow-up, *Fallout: New Vegas* (\$20), is thoroughly engrossing. Although it's a role-playing game, it also has first-person

action combat sequences. It all works together seamlessly, delivering satisfying results.

Mass Effect 2

Is it a shoot-'em-up or a role-playing game? *Mass Effect 2* (\$20) is both. It not only vastly expands the first game's cast of characters and the scope of the sci-fi story, but also adds prettier graphics, tighter combat, and frequent real-time moral decisions. Even though veterans of the first game will be more familiar with the story's background, new players will be able to get up to speed quickly.

Minecraft

Minecraft (\$20), the ultimate sandbox game, gives the player an infinitely deep box of virtual Lego bricks for building almost anything. Whether that turns out to be castles and statues, electronic calculators, replicas of the Starship *Enterprise*, or a simple sod house in which to survive a night of zombie attacks, *Minecraft* makes the hours fly by.

Red Faction: Guerrilla

Although this third-person shooter has a clear objective—your task is to topple a totalitarian regime on Mars—the open environment of Red Faction: Guerrilla (\$20) lets you stomp off and do your own thing. The formula effectively allows you to come to grips with the weapons and physical settings. Great graphics, destructible environments; and a high degree of "Wow, I can't believe I can do that!" make this game a winner.

Rift

Rift (\$30), the latest massively multiplayer online game, has quickly garnered a fervent following. Featuring four unusually customizable character classes, the game offers a heady mix of questing and dungeon crawling in a vast and beautiful environment. A game that will easily consume weeks and months of play time as you level up your character and earn ever-more-powerful gear, Rift provides a

constantly changing experience that's filled with other players and never ends.

StarCraft II: Wings of Liberty

The original StarCraft, a military game in a sci-fi setting, is the most successful real-time strategy title in history. In StarCraft II: Wings of Liberty (\$60), fans get most of the things they loved about StarCraft, and plenty of new features too. Players command armies of specialized units and use them to wage war with other players or a computer opponent across a wide variety of landscapes. StarCraft II is tactical. It's strategic. It's creative. And it's a war game unlike any other.

Torchlight

The addictive Torchlight (\$20) lets you whack loot-filled monsters like piñatas and engage in terrific dungeon-crawling action. Players roam in randomly generated dungeons, killing enemies and fulfilling

quests. Torchlight stands out not only for its sense of humor but also for including a pet that fights alongside you and can instantly return to town to sell off items—a handy feature.

Warhammer 40,000: Dawn of War II

Set in the futuristic Warhammer 40,000 universe, where human Space Marines battle Orks, the elflike Eldar, and the bioengineered Tyrannid, Dawn of War II (\$20) alters the real-time strategy formula by eliminating resource gathering and unit building. Instead, the player starts with a set number of customizable units, supplemented by friendly units on the battlefield. Gameplay is intuitive and fun, and it quickly teaches you to become a sophisticated tactician.

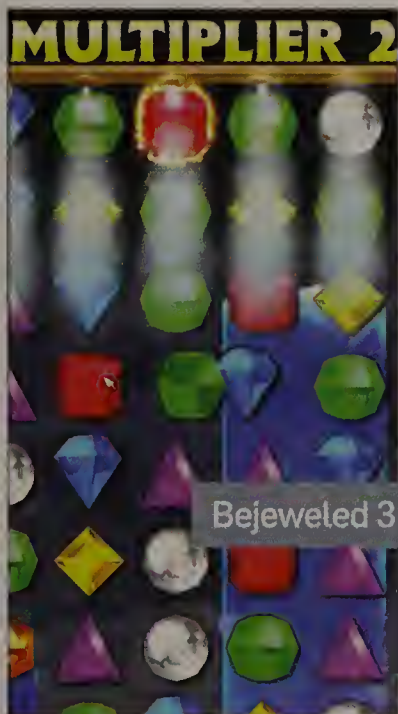
World of Tanks

Developed in Belarus, this free-to-play shooter is the best tank-warfare game we've ever tried. Players jump into an American, German, or Russian

World War II tank and enter battles where two teams of 15 fight for survival. Success yields credits that let you upgrade your tank or buy a more powerful one. The game really requires you to use the tactical thought and strategy of a tank commander. With its fantastic graphics, superb battlefields, and impressive roster of historically accurate tanks, it's highly recommended.

World of Warcraft: Cataclysm

World of Warcraft is the most successful massively multiplayer role-playing game of all time. Recently overhauled with the Cataclysm expansion (\$40), it features a huge world, customizable characters, and a bewildering bonanza of things to do. Whether you want to explore, collect virtual items, fight other players, or just hang out, the game really does have something for everyone. And now with its free-to-play option, you have no excuse not to try it. >>



The **20** Best Console Games

BY GAMEPRO STAFF

LOOKING TO ENJOY the finest console games? Here are our top recommendations for Microsoft's Xbox 360, Nintendo's Wii, and Sony's PlayStation 3.

Assassin's Creed: Brotherhood

Available for: PS3, Xbox 360

Brotherhood (\$40) is the third game in the Creed series, which chronicles the ongoing war between the Templars and the Assassins. Succeeding in this movie-like title requires almost as much creativity as it does action-gaming skills. In its innovative online modes, each player has a different opponent as a target, making every match a blend of action and strategy.

Battlefield: Bad Company 2

Available for: PS3, Xbox 360

Bad Company 2 (\$40) has a lot more elements than most military first-person shooters, with multiplayer maps that simulate war scenarios in areas such as the Panama Canal or the Alaskan mountains. The single-player story

tells of an alternative present-day plot in which Russia invades its neighbors—a wild take on modern war that only the Battlefield series can do.

BioShock 2

Available for: PS3, Xbox 360

Melding sizzling visuals with an amazing story, BioShock 2 (\$20) is a first-person shooter set in a bio-punk alternative universe. The time: 1968. The place: Rapture, an aquatic city ravaged by a second U.S. civil war. As a "Big Daddy," a creature whose organs have been grafted onto an atmospheric diving suit, you have to...well,

bread and butter of the first Modern Warfare. And Modern Warfare 2 (\$40) has proved to be a more-than-worthy successor, with a gripping story, a great multiplayer setup, and enough controversial decisions to make headline news. Even if you never play the solo missions after the first go-round, the polished online mode is so deep, with upgradable classes, that you won't soon tire of Modern Warfare 2.

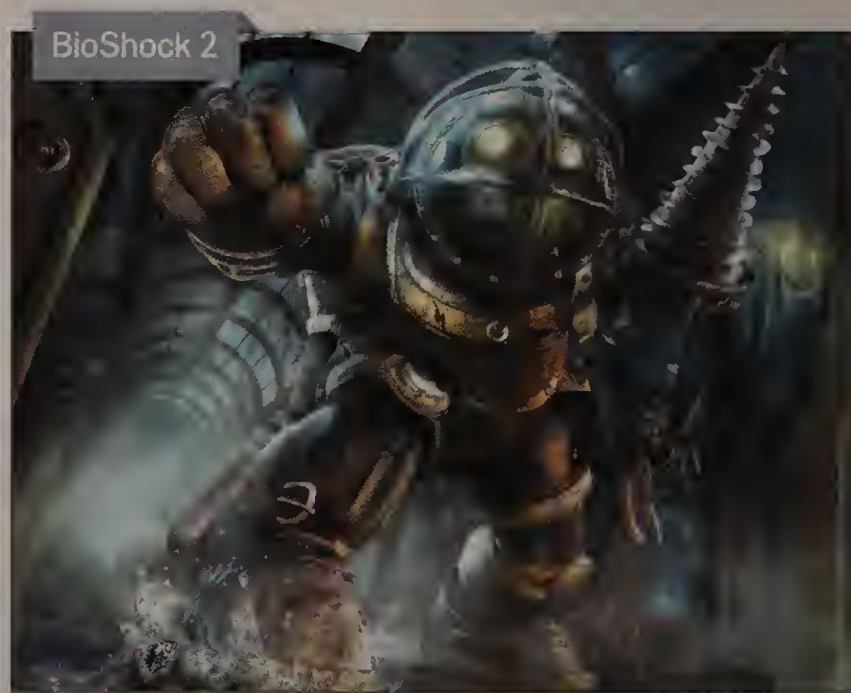
Dance Central

Available for: Xbox 360

One of the launch titles of the Kinect lineup, Dance Central



ASSASSIN'S Creed: Brotherhood challenges your wits as well as your reflexes.



figuring out what to do (and whether it's a good thing) is what the game is about.

Call of Duty: Modern Warfare 2

Available for: PS3, Xbox 360
Gut-wrenching moments and fast-paced action were the

(\$50) uses Microsoft's intuitive motion sensor to track every movement of your body, from side shuffles to pop-and-locks. You can match and master 600 dance moves in all, and while a dancing game might not sound thrilling, this one is incredibly good fun. >>

iBUYPOWER Recommends Windows® 7 Home Premium

GRAB YOUR GEAR
PREPARE FOR
BATTLE

intel inside

CORE™ i7

Visibly
Smart



ALL Desktops
FREE
120mm Liquid Cooling

Gamer Paladin D875

\$1399

Intel® Core™ i7-960 Processor

- Intel® Core™ i7 Processor
- 990X Extreme Edition \$2149
- 980X Extreme Edition \$1919
- 970 \$1694
- 960 \$1399

Genuine Windows® 7 Home Premium 64-Bit Edition

Gigabyte® GA-X58A-UD3R Motherboard

NVIDIA® GeForce™ GTX 580 1.5GB Video Card - DirectX 11 Support

10X Blu-ray & DVD±RW Combo

1TB SATA-3 7200RPM HDD

120mm Radiator Liquid CPU Cooling System



SATA3

TRUE USB 3.0 + SATA3

Corsair Memory 12GB DDR3-1333
Coolermaster® Enforcer Gaming Case + 800W Certified Power Supply

iBUYPOWER Premium Keyboard, Mouse & Speakers

Hi-Definition Surround 3D Premium Sound

Optional: Nvidia® 3D Vision Glasses & Monitor (+\$499)

Gamer Paladin D855

\$999

Intel® Core™ i7-960 Processor

- Intel® Core™ i7 Processor
- 990X Extreme Edition \$1749
- 980X Extreme Edition \$1519
- 970 \$1299
- 960 \$999

Genuine Windows® 7 Home Premium 64-Bit Edition

Gigabyte® GA-X58A-UD3R Motherboard

Nvidia® GeForce™ GTX 560 1GB Video Card - DirectX 11 Support

10X Blu-ray & DVD±RW Combo

1TB SATA-III 7200RPM HDD

120mm Radiator Liquid CPU Cooling System



SATA3

TRUE USB 3.0 + SATA3

Corsair Memory 6GB DDR3-1333
NZXT® Guardian 921RB Gaming Case + 700W Certified Power Supply

iBUYPOWER Premium Keyboard, Mouse & Speakers

Hi-Definition Surround 3D Premium Sound

Optional: Nvidia® 3D Vision Glasses & Monitor (+\$499)



Intel, the Intel logo, Intel Core and Core Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. All content and prices are subject to change without notice or obligation.

Buy Online:
ibuypower.com

Call Us:
888-462-3899



Join us on

It truly does show you how to boogie, and it can even help you stay fit at the same time.

Dead Space 2

Available for: PS3, Xbox 360, Wii (Dead Space: Redemption) Blending terror with intense first-person shooting action, Dead Space 2 (\$30) features accidental survivalist Isaac Clarke, who finds himself at the forefront of an outbreak of Necromorphs—nasty aliens that you really don't want to be stuck on a starship with. Luckily, he has access to some alien-busting tools and an upgraded mining suit that give him a fighting chance. Even so, the odds are seriously stacked against him.

nitely not a kids' game, this marathon of gore, blood, and explosions is relentless but fun, and includes some surprisingly strong characters.

God of War III

Available for: PS3 In this phenomenal fighting/exploration game, superbeing Kratos is on his final quest for revenge against the denizens of Mount Olympus. Energized with stunning high-definition graphics, huge character models, and epic battles, God of War III (\$30) is one of the most amazing-looking games yet. Plenty of series trademarks are on hand, as well, such as gory finishing moves, insanely powerful weaponry,

some elements unique to the SPARTANs, such as armor abilities and equipment power-ups. A highly refined multi-player system adds interesting modes such as Firefight.

Heavy Rain

Available for: PS3 Offering compelling characters, intelligent dialogue, and events that require the player to make critical decisions at specific junctures, the groundbreaking Heavy Rain (\$30) is one of the closest experiences to an interactive movie we've yet seen. Whether you're running away from an armed assailant or trying to question someone, Heavy Rain's story is constantly branching.

plays a key role: When you're interviewing suspects and witnesses, you have to figure out who's lying and who isn't based on their reactions.

The Legend of Zelda: Twilight Princess

Available for: Wii The Legend of Zelda franchise is revered—and thankfully, Twilight Princess (\$25) lives up to the high bar set by previous titles. This instant classic is absolutely stunning, with gorgeous graphics, clever level designs and a great dose of action; on top of that, it opens up a new chapter and widens the potential of the series. Although anyone who loves the Zelda games will



Dead Space 2



Halo: Reach



L.A. Noire

Gears of War 2

Available for: Xbox 360 In Gears of War 2 (\$30), one of the best third-person shooters money can buy, the player shoots, punches, stomps, claws, and tears through the Earth itself in a bitter fight against the Locust Horde infesting the planet's core. Defi-

detailed environments, and an adult minigame that manages to be hilarious and steamy.

Halo: Reach

Available for: Xbox 360 Consider Halo: Reach (\$40) a bookend to the sci-fi Halo saga, but an epic game nonetheless. The game introduces

L.A. Noire

Available for: PS3, Xbox 360 L.A. Noire (\$40) puts you in the shoes of Cole Phelps, a war hero who joins the police department at a time when crime and corruption in the city are at their peak. Characters' facial expressions render in extraordinary detail, which

certainly enjoy this installment, it's a particularly fun title to share with the kids.

LittleBigPlanet 2

Available for: PS3 Cooperative platform action and photo-realistic environments that seem to be constructed from fabric and

paper are the tip of the iceberg. Beneath LittleBigPlanet 2 (\$40) is a canvas for aspiring game designers. The game has hundreds of thousands of user-created levels to download, and some of them are out of this world.

Mario Kart Wii

Available for: Wii

Mario Kart Wii (\$50) is the craziest and most fun multiplayer racing-combat game around. Featuring a who's-who of the biggest names in Nintendo gaming from the past three decades, and offering competitive racing that'll have you yelling at other players in frustration and delight, it's one of the top Wii games.

the Collectors, an alien group that's eliminating human colonies in the galaxy. You can be a renegade or a peacekeeper, but even your smallest decisions can come back to hurt or help you.

MLB 11: The Show

Available for: PS3

Whether you want to immerse yourself in the management of your team, or play as an individual who's constantly focused on retaining his spot in a major-league lineup, MLB 11: The Show (\$60) is a world-class simulation with something for just about every baseball fan. Intelligent analog controls round out the new fielding, pitching, and bat-



MARIO KART WII offers crazy tracks and fast-paced fun.



Mass Effect 2

Available for: PS3, Xbox 360

Impeccable storytelling ties together the action-oriented role-playing gameplay, impressive graphics, and diverse missions of Mass Effect 2 (\$30). The player takes the role of Commander Shepard, who is on a mission to destroy

ting gameplay, and the title retains the visual polish that the series is known for.

Portal 2

Available for: PS3, Xbox 360

In the first-person Portal 2 (\$40), you must navigate a dilapidated research center by using a portal gun to open

and close apertures and move from room to room. Escaping requires creative thinking, but the solutions are always slap-your-head obvious—once you figure them out. Rewarding, fun, and maddeningly addictive, Portal 2 is a must-have.

Rock Band 3

Available for: PS3, Xbox 360

Want to sing, drum, play guitar or bass, or tickle the ivories? Rock Band 3 (\$40) has a fantastic roster of tunes to play along with. It also has a catalog of thousands of downloadable songs, and features "Pro Mode," an in-game tutoring system made to work with a Mustang Pro Guitar controller that feels like the real thing.

Super Smash Bros. Brawl

Available for: Wii

One of the best showcases of the Wii's competitive-gaming prowess is Super Smash Bros. Brawl (\$50), a high-energy


multiplayer fighting game. The kids will beat the living daylight out of you at first. It's so much fun, you'll want to sneak in a few goes during the evening for practice.

Uncharted 2: Among Thieves

Available for: PS3

When a title rates as the game equivalent of *Raiders of the Lost Ark*, its action has to be over-the-top, and its characters must have unmistakable charm. That's exactly what you'll find in Uncharted 2: Among Thieves (\$30), with flawed hero Nathan Drake in a heap of trouble again. From shooting to exploring to fighting, everything in the game comes together perfectly. ●

MORE ONLINE

 For the latest game news, opinion, and analysis, visit our Game On blog at go.pcworld.com/gameon.

Here's How

Upgrade Your System RAM, Step-by-Step

If you haven't made the 64-bit jump already, now is the time. Whether your system is a desktop or a laptop, here's how to upgrade your computer's memory.

BY LOYD CASE

IT'S A GOOD time to upgrade your machine's memory. Most PCs are now sold with 64-bit operating systems. Applications are more memory intensive than ever, and 64-bit applications are shipping, as are a few 64-bit games. Memory prices have also dropped substantially.

Buying the right memory, however, isn't as easy as it used to be. Almost all current desktops now use DDR3 memory, while older PCs run DDR2. The situation is similar with laptops (though some current models still use DDR2). Check your man-

ufacturer's manual for the type of memory you need.

When you're upgrading a desktop, memory speed and timing can be an issue. Many desktop motherboards have problems running with modules in all the memory sockets at their full rated speed. One strategy is to buy modules a speed grade higher than the highest DRAM speed the motherboard supports, and dialing them down. (I once ran an X58 motherboard with 12GB of DDR3: six 1600MHz modules, all running at 1333MHz.)

Buying laptop modules is a little easier, if you know the rated speed and capacity.

◀ MOST CURRENT desktops use DDR3 memory, like this Corsair module.



Laptops generally support no more than two memory modules, though a few models have three sockets.

Whether it's a laptop or a desktop PC, a general rule of thumb is to keep capacities the same for each memory channel. For a dual-channel PC with four memory sockets, for example, it's okay to have two of them be 2GB modules and the other two,

try inserting DDR3 modules into DDR2 sockets.

4. Most memory sockets have two locking tabs on either side that flip down to release memory modules for removal. Some motherboards may have a locking tab on only one side. If you are replacing old modules with new memory, unlatch one or both tabs to release and lift out the old module.

in the memory socket.

9. Exerting the minimal effort possible, push the new memory module straight down into the socket until the locking tabs latch the module into place.

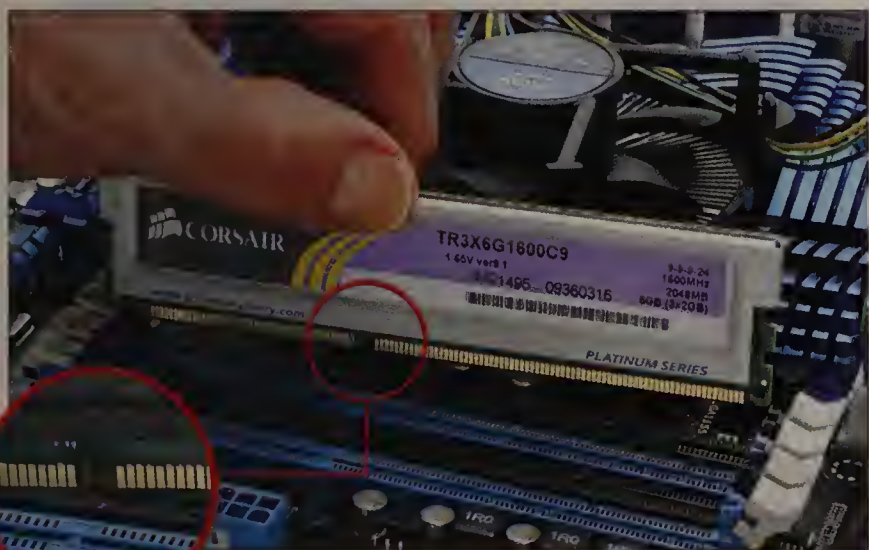
10. Double-check that all the tabs are locked and the module is firmly in place.

11. Replace any hardware or wire connections that you had to remove in order to

ny's website or use a search engine to find the site.

2. You may need to use a very small screwdriver with a special head to remove the screws from the memory compartment. Make sure you have one on hand.

3. Confirm that you have the correct module types for your PC. You don't want to insert DDR3 modules into DDR2 sockets.



UNLATCH ONE OR both tabs to release each of the old modules. Align the key notch (inset) with the ridge in the memory socket to orient each new module in the right direction.

4GB modules—as long as you make sure that each pair of matching modules is installed in sockets for the same memory channel.

Desktop Memory

1. Set the PC on an elevated platform, such as a table or workbench. It's much easier to tinker inside the case if you have a good work space.

2. Clear all the wiring and clutter from around the DRAM sockets.

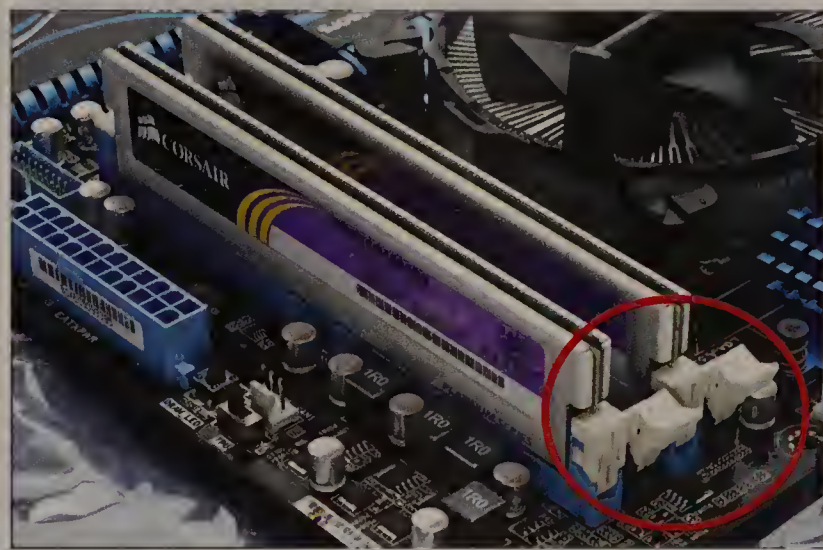
3. Confirm that you have the correct module types for your PC. You do not want to

5. Your graphics card or CPU cooling fan may crowd the memory socket to the point that you can't remove or insert memory. In that case, you'll need to remove the obstructing items.

6. Never, ever handle DRAM modules by the gold-plated contacts.

7. When inserting new modules, make sure that the locking tab or tabs are completely open.

8. To ensure that the new modules are oriented correctly, align the key notch with the corresponding ridge



ONCE THE NEW memory modules are in place (be sure to push them straight down), double-check to see that all the tabs are locked and that each module is otherwise firmly in position.

install the new modules.

12. Try powering up the system. If you hear multiple fast beeps, then one of the modules isn't properly installed or may be defective. If you're trying to fill up all the memory sockets, remove the old modules and see if the system boots with only the new ones.

Laptop Memory

1. Read your manual to find out how to open the bay containing the memory sockets. If the manual doesn't show this, go online to the compa-

4. Laptops use SODIMMs, which are smaller than desktop memory modules. The memory sockets have locking tabs as well, but they often have a spring effect to push up old modules when you unlatch them.

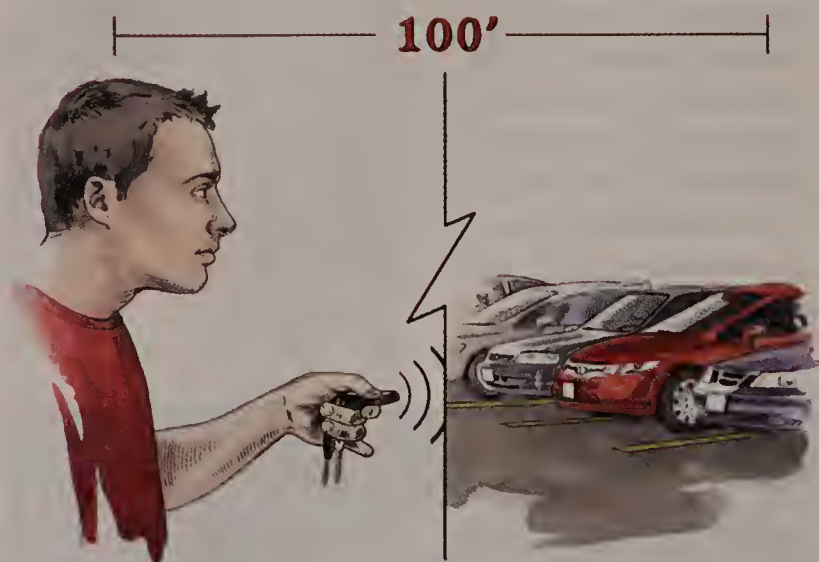
5. When you insert a new module, line up its notch with the matching ridge in the memory socket.

6. Slide the module into the slot and press it into the laptop to latch it in place.

7. Test to see if the system boots before replacing the compartment cover.

Putting Two Tech Tricks to the Real-World Test

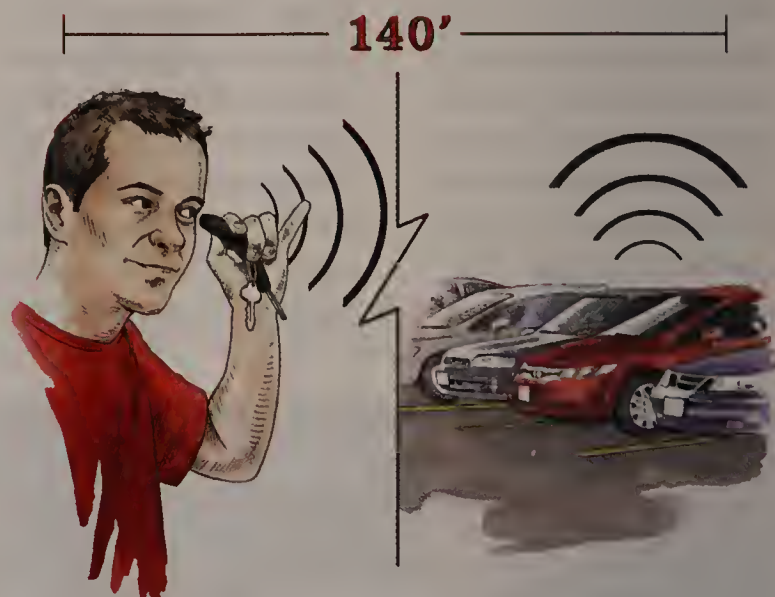
We try out two weird tricks long rumored to actually work: one for improving your car's key-fob range and another for boosting an HDTV set's over-the-air signal.



1 Boost the Range of Your Car's Key Fob

Tech urban legend says that you can increase your car's key-fob range by strategically pointing it at your head (the shape of your skull acting as a directional antenna of sorts). Skeptical? So were some *PCWorld* volunteers—until we tested it with editorial director Steve Fox's car in our parking lot.

First, we tried to establish the key fob's maximum range with a standard grip while maintaining a line-of-sight connection; this was about 100 feet from the car. At that distance, we found, the car responded to 1 of every 20 to 30 button



presses. Then we—four different staffers—took turns locking and unlocking the car by pointing the key fob at our heads, either holding it up against the bottom of our chins or pointing it at our temples (as shown in our illustration).

To our surprise, this method enabled us to move an additional 40 feet or so away from the car and still get effective performance from the key fob; at that point we reached the wall of the parking lot, putting an end to the experiment.

The verdict: This trick worked. (Try it yourself.)

2 Get Better HDTV Reception

Remember all the adjustments that you tried in an effort to improve your TV's reception of over-the-air signals before you finally got cable? You probably wrapped the antenna in aluminum foil, contorted it into a multitude of positions, or bribed a small child to hold it for the last quarter of the big football game. And, silly as it seems, such tricks worked.

These days, if you are attempting to cut your cable TV expenses by switching to over-the-air HD broadcasts, you'll want to bring back the old bag of tricks. So I tested them out.

Most current HD tuners and antennas come with an auto-tuning feature to pick up the strongest possible signal for your area and add all the local channels. But you will still need to do some tweaking, so many tuners include a signal-strength menu. Select a channel, and the tuner reports your current signal strength as you reposition the antenna.

I started by checking the channel-selection options on a Panasonic TC-P50ST30's built-in TV tuner. With a double-antenna device positioned behind the TV, the tuner reported

a signal strength of 66 percent—but audio and video freezes made the feed unwatchable. With the antennas in front of the TV, the tuner still reported the signal strength as 66 percent.

Next, I angled the antennas toward me instead of straight up. With one of the antennas poking the side of my head, the signal strength rose to 91 percent.

But who wants a metal rod jabbing you in the head? So I put the antenna base on a swivel chair and moved it around the room, as far as the 6-foot-long coaxial cord allowed. The signal's sweet spot was about 4 feet away: There, the tuner once again reported 91 percent signal strength.

However, I demanded perfection. So I wrapped a 1-foot-by-1-foot square of aluminum foil around both of the antennas. The result? Signal strength rose to a perfect 100 percent.

The verdict: The old tricks are still operative, but you'll be best served by using a longer coaxial cord than I did, plus a piece of aluminum foil. No small children required.

—Patrick Miller

Master the Start Menu in Windows 7

The Start menu is so much more than a simple program launcher. Here's how it can help you work more efficiently in Windows 7.

IN WINDOWS 7, the Start menu is both easier to use and more sophisticated. It offers a slew of capabilities and customization options.

Let's customize the Start menu. If you context-click (right-click) on the Start menu (Windows) button, two options will appear. Click on *Properties*; in the resulting window you'll see a pair of settings that you should enable: *Store and display recently opened programs in the Start menu*, and *Store and display recently opened items in the Start menu and taskbar*. These items are located under the 'Privacy' heading, as you may not want to enable them for a shared system.

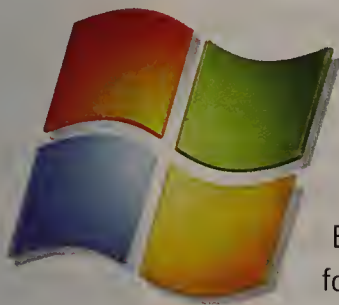
The next step is to click the *Customize* button.

You'll see a window with many different options. Here is a summary of what I enabled in my own Start menu.

Number of recent programs and recent items to display: You'll find these under 'Start menu size'. The default is 10; I set it to 20, since I have a large display.

Computer: I enabled 'Display as a menu'. Drives and top folders appear on a fly-out menu. Saves a click.

Downloads: I set it as a link; it gets me to the Downloads folder with one click.



Games: I display this as a fly-out menu. The result is a much quicker way to launch games that are located in my Windows games folder.

Network: Enabled as a link for quick access.

Recent Items: It's very handy to have quick access to recent files.

Run command: Enabling this avoids having to type "Run" in the search box.

System administrative tools: This is often helpful for troubleshooting.

Start Menu Shortcuts

Now let's look at some additional shortcuts and tips on using the Start menu.

If you have a lot of programs installed, consider using the keyboard instead of hunting for them in the All

Programs window. You simply hold down the <Windows> key and the R key at the same time. This will bring up the Run box; if you type the name of the program, it will run. However, you must know the exact name of the application. For example, if you want to run Word, you have to type **winword.exe**. What, you didn't know that the actual Word program name is winword.exe?

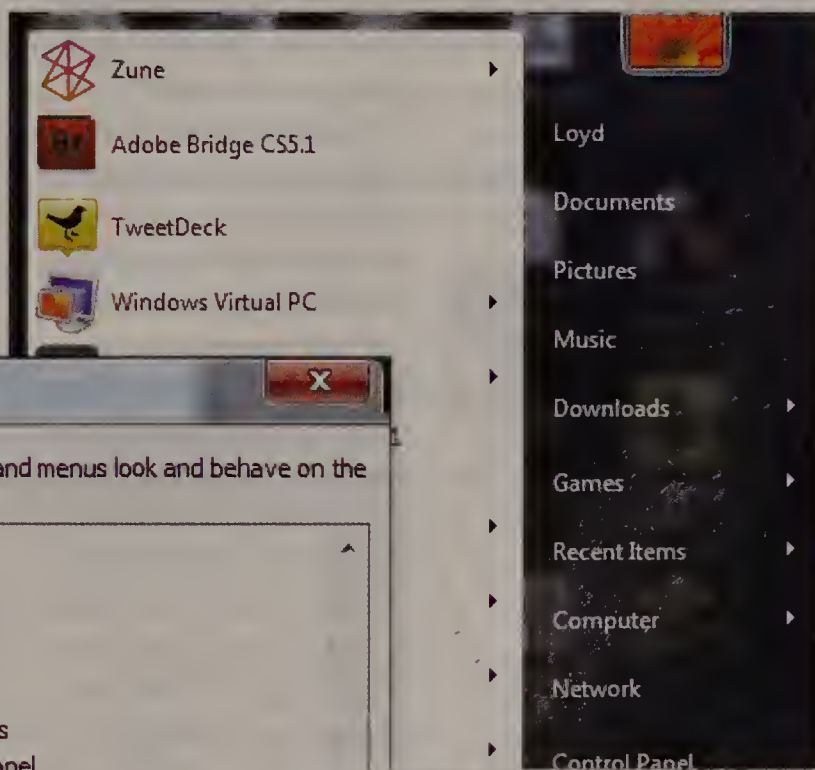
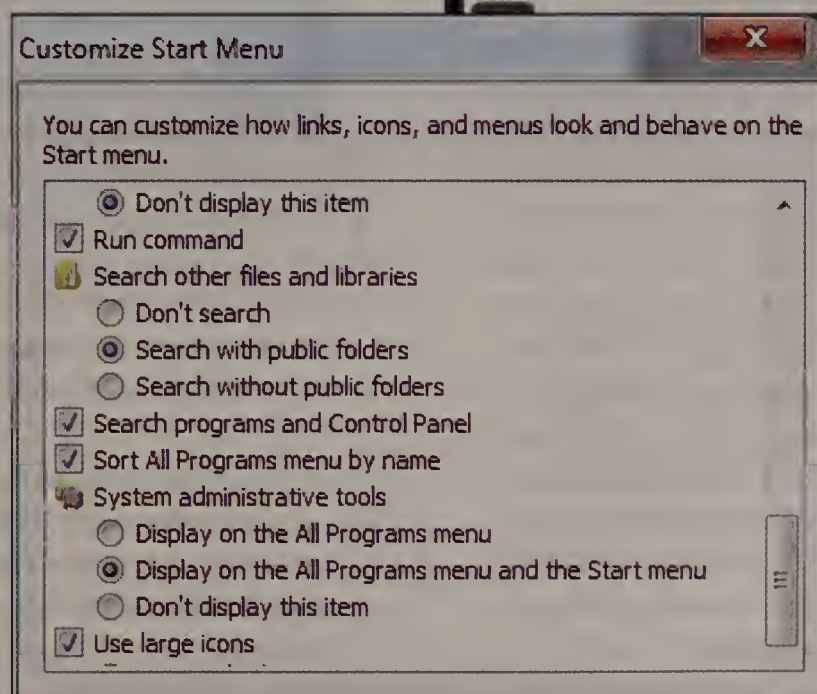
If you know part of the program's name, but not its whole name, use the Start menu search function. Press the <Windows> key and then start typing **wor**. If you wait

just a moment for the search function to do its job, you'll see quite a list.

Here, the version of Word you have appears as the top choice. Various other applications, document names, and shortcuts will pop up in the results as well, though—you can click on whichever of them you want. But if you press the <Enter> key after typing **wor**, then the top item in the list—that is, Microsoft Word—will promptly open. Simple and efficient.

You will sometimes have to type additional characters for the right top choice. If you type **ex** and then press <Enter>, you'll likely run Internet Explorer. If you want to launch Excel, you'll need to type **exc** at a minimum.

—Lloyd Case



THESE ARE JUST some of the options in the 'Customize Start Menu' window (to access, right-click the Windows or Start menu button, and then click Properties>Customize).

Parcels App for Android Tracks Packages

I GET A lot of packages. Thanks to my online shopping addiction and the fact that tech companies are always sending me gadgets and other stuff to test, I've built pretty good relationships with my DHL, FedEx, OnTrac, and UPS drivers.

But to help me keep track of all the packages that I've ordered and shipped back at any given time—and do it all on my phone—I've been turning to a cool little Android app called Parcels

(find.pcworld.com/72215).

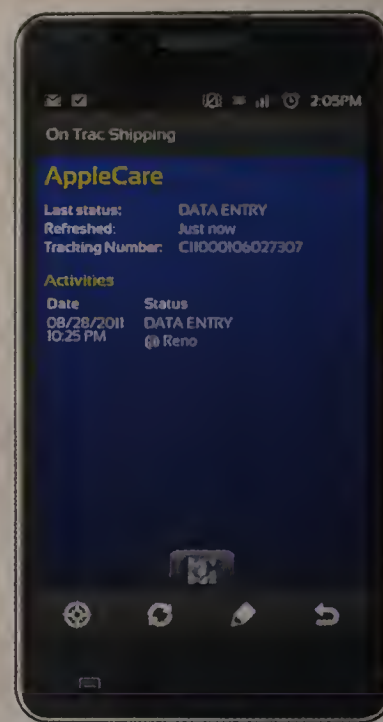
Using the app doesn't take much: Just copy a tracking code out of a shipping confirmation notice and paste it into Parcels. Give the shipment a name like "New Shoes" or whatever, and Parcels will store it as a tile in the app's list. Every tracking code gets its own tile, and Parcels automatically colors each tile according to the delivery company (yellow for DHL, purple for FedEx, blue for OnTrac, and so on), so

you can tell each one apart.

For tracking shipped packages, Parcels includes the ability to use a bar-code scanner app to capture the tracking number on a packing slip, so you don't have to punch in the number.

Even if you don't send and receive as many packages each week as I do (few people do), Parcels is a cool app for the holiday season or any other time when you are eagerly awaiting a shipment.

—Robert Strohmeier



THE PARCELS Android app helps you track shipments.

Connect Your Linux PC to Android Phones

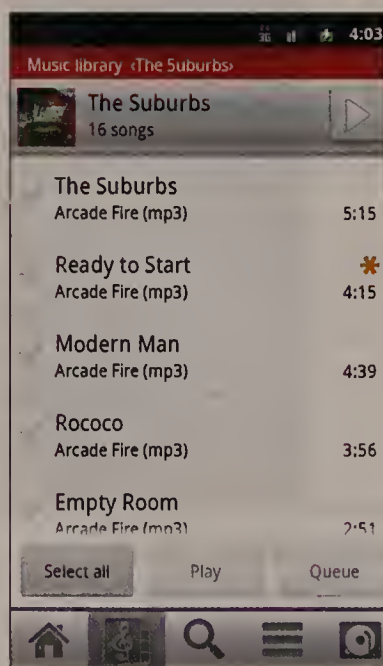
EVERY MAJOR PLATFORM now has a cloud service. For Ubuntu Linux, it's UbuntuOne (part of the default installation of Ubuntu). Now Android users can download

UbuntuOne Files to bridge the gap between their phone and their Ubuntu PC.

Download the free UbuntuOne Files app from the Android Market, and you'll get immediate access to files that you've stored on your UbuntuOne cloud account. The app has a photo viewer, and hands off other file formats to your default viewer; Office files I've stored in UbuntuOne open in QuickOffice on my Android phone.

With a premium UbuntuOne account, such as the \$4-per-month Mobile package, you can add the UbuntuOne Music app to stream unlimited hours of tunes straight to your phone from your account (additional storage not included).

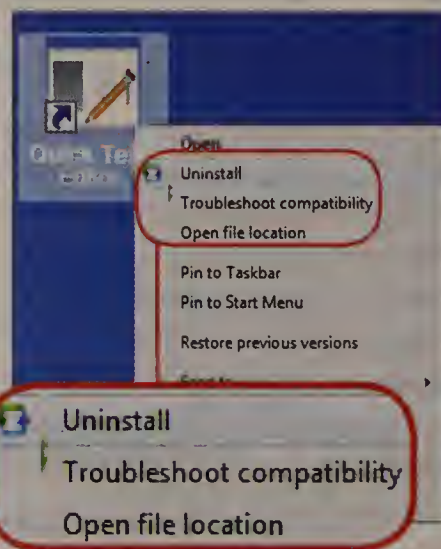
—Robert Strohmeier



AN APP NOW links Android phones and Ubuntu PCs.

Add an Uninstall Option

HERE'S A HASSLE that drives me nuts: Whenever I want to uninstall a program, I have to venture into Windows' Control Panel, find the uninstall tool, wait for it to show a



MENUUNINSTALLER adds an easy-to-find uninstall option to programs.

MENUUNINSTALLER adds an easy-to-find uninstall option to programs. It doesn't matter if the icon is on your desktop or in the Start menu—just right-click and choose *Uninstall* to start the program's associated uninstaller. (You may have to enable that program's 'Run as administrator' option.) MenuUninstaller is compatible with Windows XP, Vista, and 7. It's freeware!

—Rick Broida

complete list of my installed programs, scroll through the list to find the program I want to remove, and then start the process. That's four steps too many.

LeizerSoft's MenuUninstaller (find.pcworld.com/72216)

puts an uninstall option in the context menu when you right-click the icon for an installed program. Doesn't matter if the icon is on your desktop or in the Start menu—just right-click and choose *Uninstall* to start the program's associated uninstaller. (You may have to enable that program's 'Run as administrator' option.) MenuUninstaller is compatible with Windows XP, Vista, and 7. It's freeware!

Keep Neighbors From Stealing Your Wi-Fi

FOR MANY YEARS, I didn't bother protecting my home network. My neighbors had their own networks—all password-protected, of course. So why would I deal with the hassles of WPA2 passkeys and all that?

Then my router died. When getting the replacement, I figured it was finally time for me to set up some encryption—in case a cheapskate neighbor decided to start freeloading off my pricey cable Internet service. And you know what? Hassle city. I'm tired of entering a lengthy password every time I add a new device to the network (which is often). Plus, my wireless printers are causing me major grief with the new WPA2 setup.

So I'm about ready to go back to my old unprotected ways—following, however, the clever advice I gleaned over at Digital Inspiration (find pcworld.com/72217): I'll simply give my unprotected network a scary name.

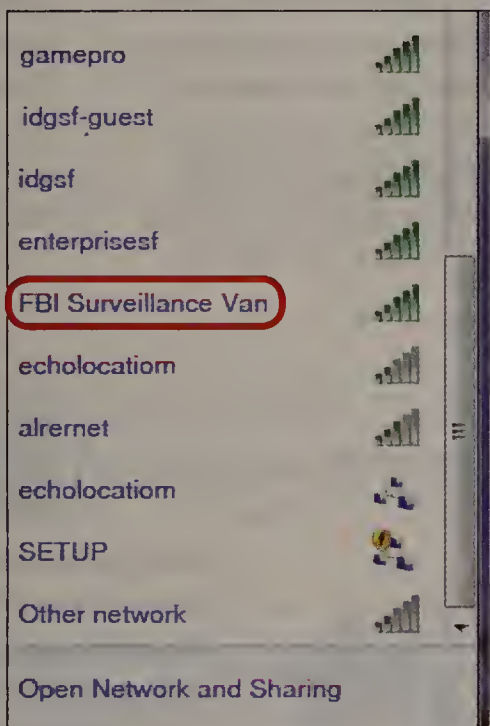
The point? By choosing an unappealing or intimidating SSID (network name), I may well discourage non-tech-savvy neighbors (which, no offense, is most of them) to steer clear. The Digital Inspiration site gives this

example: `c:\virus.exe`.

I like that, but what about something just vaguely threatening, like *FBIWatchdog?* Or *thievesbeware?*

Actually, think I'll go with this: *iwillhackyou*. That should be enough to keep the pilferers at bay.

Okay, maybe that is a bit



GIVING YOUR Wi-Fi-based home network an intimidating name is one way you can protect it.

silly. The smarter move is simply to not broadcast the SSID at all, meaning your network will stay invisible to outsiders while remaining available to you. (Find out more in Nick Mediati's "How to Secure Your Home Wi-Fi Network," find.pcworld.com/72218.) That's the route I'm now planning to take—but I still like the idea of having a scary name for my network.

—Rick Broida

ANSWER LINE

? My laptop is hooked to an external monitor. How can I close its lid without putting it into sleep mode?

—Bharat

WINDOWS LAPTOPS default to entering sleep mode (standby in XP) when you close the lid. Under most conditions, this behavior is logical: If you've been working in a café and it's time to go home, you close your laptop and stick it into your bag, where it goes to sleep, saving battery power



LINCOLN SPECTOR

and giving itself a chance to cool down while you travel.

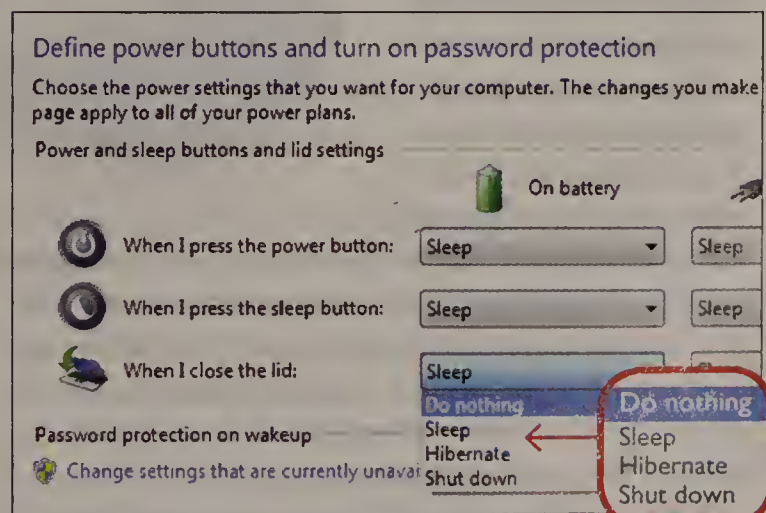
But that doesn't work if you're using an external monitor.

Luckily, you can change that setting. Not only can you keep the laptop on when you close the lid, but you can also set it to hibernate, shut off, or "do nothing."

If your laptop runs Windows XP, right-click the desktop and select *Properties*. Click the *Screen Saver* tab, and then the *Power* button in the lower-right corner. Click the *Advanced* tab. Select an option from the 'When I close the lid' (of my portable computer) drop-down menu.

With Windows 7 and Vista, you can use different settings for when the laptop is on battery or on AC-power. That makes a lot of sense: If your PC is connected to a monitor, chances are it's not running on the battery.

To access these settings options, click *Start*, type *power*, and select *Power Options*. Click *Choose what closing the lid does*, and select the options you want.



YOU CAN CHOOSE what happens in the drop-down menu for 'When I close the lid' (of your laptop).

How to Open Those Really Old Files

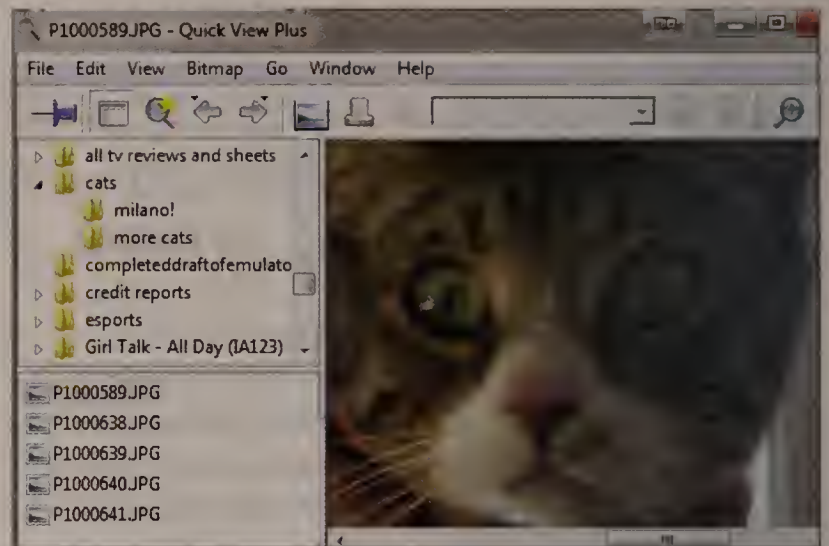
PERHAPS YOU HAVE a CD with very old files you're curious about. If double-clicking a file doesn't open an associated program (and don't even try that before scanning it for malware), do some research. Look up the extension on FILEExt.com or File-Extensions.org. Either of those sites should be able to tell you what kind of file it is and what programs should be able to open it.

Alternatively, go to your favorite search engine and enter **open ext file**, where

ext is the mystery extension. For instance, if you want to access a .wb1 file, search for **open wb1 file**. You're bound to find a useful answer.

Or maybe not. Back in the days of DOS, the operating system didn't associate extensions with particular applications, and users had little motive to save their files with an extension that identified the file type.

If you're reasonably sure that the file is of a specific kind, such as a word processing document or a picture,



QUICK VIEW PLUS is a file-viewing utility that can display over 300 file types (but not multimedia files, such as movies).

try dragging and dropping it into an appropriate program. I know from my own experience that I can drag and drop an old WordPerfect file into Word and open it, no matter what the extension.

One last, fairly pricey,

resort: Download and install Quick View Plus Standard (find.pcworld.com/71964). This \$49 file viewer (with 30-day trial period) can identify and display over 300 file formats, no extension needed.

—Lincoln Spector

EASY HACK: MAKE YOUR LAPTOP RUN QUIETER

READER THOMAS owns a fairly small, compact laptop that, he says, "has gotten incredibly noisy in the last few weeks. It's the cooling fan, which seems to run all the time and at maximum speed." He wants to know if he can get his laptop back to its previously quiet self.

Like desktops, laptops can suck up a ton of dust. And because everything in a laptop is packed together so tightly, dust is even more dangerous. When the cooling fan has to run constantly, it's just a matter of time before the machine starts overheating, locking up, and possibly even kicking the bucket. Fortunately, this problem is easy to fix. All you need is a small screwdriver and a can of compressed air (or an air compressor).

Power down the laptop, flip it over, and remove the battery. (Unplug the AC adapter, too.) Look for an air vent on an outer edge of the laptop; the bottom should have an access



A CAN OF compressed air will clean the dust out of your laptop's interior.



panel nearby. Unscrew the panel and then remove it. You should see the fan immediately underneath (most laptop models have panel-accessible fans).

Now it's time to blow out the dust, something you might want to do outside. Hit the fan in short bursts from lots of different angles, making sure to blow most frequently in the direction of the air vent. If you're using an air compressor, keep the pressure relatively low, and don't get too close with the nozzle—you don't want to cause any damage, after all!

After you've blown out all the dust you can see (and a lot more that you couldn't), replace the access panel and battery, and then power up the system. I'll wager you'll find that your laptop will now run much quieter (and cooler) than it did before.

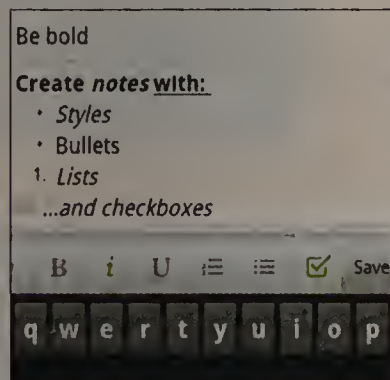
Even if your laptop (or desktop) is running quietly, if it's more than a year or two old, it's probably overdue for interior cleaning.

—Rick Broida

Make Quick Checklists in Evernote

ARE YOU ADDICTED to checklists? Do you use Evernote (evernote.com)? Yeah, me too. But did you know that Evernote has its own checklist feature built right in? It can be a powerful tool for daily productivity.

When you create or edit a note in an Evernote app (for Android, Web, or desktop),



PLACE YOUR CURSOR, then click the checkbox icon.

look for a little checkbox icon in the menu bar. Clicking it will put a checkbox wherever your cursor happens to be within a given note. This step can help you create packing checklists for trips, simple to-do lists, trackable talking points for a presentation, and so on.

The checkbox feature is pretty limited—it just places a checkbox next to some text. It doesn't make a full-fledged task manager out of your notes. But for little lists that you'd rather not allow to clutter up your actual task-list app, it's great.

—Robert Strohmeyer

HASSLE-FREE PC

Create a Keyboard Shortcut for a Folder

You can't pin a folder to the taskbar, but here is a handy alternative. Plus: a trick to keep Gmail from choking Windows Live Mail.



RICK BROIDA

READER JIM WANTS to know if there's a way to pin an oft-used documents folder to the taskbar for quick and easy access.

Alas, while Windows 7 lets you pin programs and individual files to the taskbar, it doesn't allow you to pin folders. But you can use another lightning-fast way to access a favorite folder, by setting up a keyboard shortcut. Here's how:

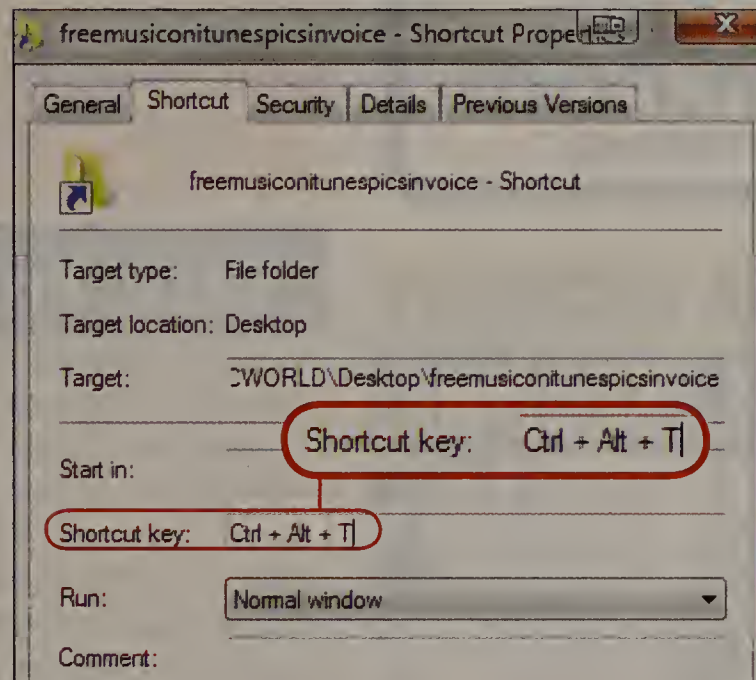
1. Open Windows Explorer and navigate to the folder (let's call it 'Client Files').
2. Right-click the folder and choose *Send to • Desktop (create shortcut)*.
3. Minimize all open windows and find the newly created shortcut icon on your desktop.

The icon will have the label 'Client Files - Shortcut'.

4. Right-click that shortcut icon and, in the resulting menu, choose *Properties*.
5. In the Shortcut tab, click inside the 'Shortcut key' field (it may have the word 'None').
6. Now you have to decide what keyboard shortcut you want. Just by way of giving an example here, let's go with <Ctrl>-<Shift>-F. With your cursor in the 'Shortcut key' field, press that combination, and you'll see it appear there.

7. Finally, click *OK* to complete these steps.

Now, whenever you press <Ctrl>-<Shift>-F, even when you're using another program, your folder will magically appear. (You can use this method to quick-launch favorite apps as well; right-click a desktop shortcut and repeat the process.)



THE FINAL STEP in creating a folder shortcut is to select a combination of keyboard keys that will be your shortcut.

Fortunately, Gmail itself offers a way to close the spigot, via these five steps:

Stop Gmail From Downloading Too Many Messages

Recently I helped a family member install Windows Live Mail 2011 and configure it for use with her Gmail account. But she has some 75,000 messages there, and Live Mail insisted on downloading them all. (Live Mail can't limit the number of messages it downloads.)

Fortunately, Gmail itself offers a way to close the spigot, via these five steps:

1. Open your browser and connect to your Gmail account.
2. Click the little gear icon in the top-right corner, and then click *Mail settings*.
3. Select the *Forwarding and POP/IMAP* tab, and scroll down to *Folder Size Limits*.
4. Enable this setting: *Limit IMAP folders to contain no more than this many messages*.
5. Choose a number of messages: 1000, 2000, 5000, or 10,000. (You can change it later.) ●



We can save it!®
 Want proof? www.drivesavers.com 800.440.1904

© 2009 DriveSavers, Inc. All Rights Reserved. DriveSavers Data Recovery the DriveSavers logo and "We can save it!" are registered trademarks of DriveSavers, Inc.

KINEKT GEAR RING

Moving gears you can wear



Lifetime warranty
 Free worldwide shipping

See the gears in action at:
KINEKTDESIGN.COM
 888.600.8494

NEW LOW PRICE!



\$6.99 (Wow!) Qty 3+
 Qty 2: \$7.99
 Qty 1: \$8.99
 Remanufactured HP 51645a (No. 45) ink cartridge.

More great deals at...
1-800-INKFARM
inkfarm.com
 the ink & toner supersite.™

Macworld

iPad

Superguide

Macworld.com/superguide

Learn everything you need to know about the iPad.



CLEAN-ROOM DATA RECOVERY

FAST. RELIABLE. SECURE.



- RAID/HDDs/Tape •
- DOD-Level Security •
- Affordable, Up-front Pricing •
(no hidden charges)
- High Recovery Success •
- Glass-100 Clean Room Lab Standards •
- Complete Computer Forensic Services •
- Downloadable Data Recovery Software •




datarecovery.com
ESS DATA RECOVERY LABS
800.237.4200

USA: 110 N. Research Drive, Edwardsville, Illinois • 1241 Quarry Lane, Pleasanton, California
 6043 Hudson Road, Woodbury, Minnesota CANADA: 7300 Warden Ave., Toronto, Ontario

Save Your Back Issues

Preserve, protect and organize all your *PC World* back issues. Slipcases are library quality. Constructed with heavy bookbinder's board and covered in a rich flag blue leather grained material. A silver label with the *PC World* logo is included for personalizing.

Perfect for your home or office.



One - \$18 Three - \$45 Six - \$84
 Add \$3.50 per slipcase for P&H. USA orders only.

Send to: **TNC Enterprises Dept. PCW**
P.O. Box 2475
Warminster, PA 18974

Enclose name, address and payment with your order. (No P.O. boxes please) PA residents add 6% sales tax. You can even call 215-674-8476 to order by phone.

Credit Card Orders:
 Visa, MC, AmEx accepted. Send name number, exp. date and signature.

To Order Online:
www.tncenterprises.net/pcw

PCWorld

PRESIDENT, CEO Mike Kisseberth
SENIOR EXECUTIVE ADMINISTRATOR Caroline Ward

ADVERTISING SALES

SENIOR VP, SALES & MARKETING Stacey Levy
(415/978-3255)
SENIOR DIRECTOR, SALES Gabe Rogol (415/974-7373)

EAST

ACCOUNT DIRECTORS Amy Singer (201/634-2317)
Kathy Rebello (508/820-0440)
ACCOUNT EXECUTIVE Paul Moretti (415/243-3575)
SALES ASSOCIATES Shari Redan (207/899-2099)
Morgan Branon (415/978-3271)

SOUTHWEST

ACCOUNT DIRECTOR Cindy Hamilton (949/442-4005)
SENIOR ACCOUNT EXECUTIVE Duane Hampson
(415/978-3133)
SALES ASSOCIATE Chrissy Schneider (415/978-3269)

NORTHWEST

ACCOUNT DIRECTORS Elaine Ebner (415/267-4578)
David White (415/243-3664)
SALES ASSOCIATE Morgan Branon (415/978-3271)

MARKETING

MARKETING MANAGER Jim Hopkins

PCWORLD REPRINTS

permissions@pcworld.com

SALES PROGRAMMING & OPERATIONS

SENIOR DIRECTOR, SALES PROGRAMMING &
OPERATIONS Kevin Barden
PROJECT MANAGERS, SALES Nelson Hong, Tina Marfori
AD TRAFFICKER Chris Hanen
AD OPERATIONS COORDINATOR Roman Martinez
SALES PROGRAM DESIGNER Eduardo Ribeiro

PCWORLD | MACWORLD CONTENT WORKS

DIRECTOR Robert Strohmeier
CONTENT MANAGER Michael Ansaldo

DIGITAL MEDIA

CTO/VP, PRODUCT DEVELOPMENT Aaron Jones
VP, MOBILE PRODUCTS Ulla McGee
VP, AUDIENCE DEVELOPMENT & ANALYTICS
Alexa Wriggins
DIRECTOR, PROGRAM & PROJECT MANAGEMENT
David Lake
PRODUCT MANAGER Curt Poff
PRODUCT MANAGER, MOBILE Jacky Lee
PROJECT MANAGER Lauren Russo
SENIOR MANAGER, AUDIENCE DEVELOPMENT DW Malouf
NEWSLETTER SERVICES MANAGER Michael E. England
RESEARCH MANAGER Miguel Beteta Rodrigo
RESEARCH ANALYST Kyle Flick
SENIOR VIDEO PRODUCER Chris Manners

PRODUCTION

DIRECTOR, PRODUCTION Nancy Jonathans
PREPRESS MANAGER Tamara Gargus
PRODUCTION SPECIALIST Jerry Wandel

TECHNOLOGY

SENIOR DIRECTOR, IT & WEB OPERATIONS
Sean Greathouse
IT MANAGER Walter Clegg
SYSTEMS ANALYST Eileen Quan
IT TECHNICIAN Dan Dudziak
SENIOR WEB OPERATIONS ADMINISTRATOR
Andrew Trice
DIRECTOR, SOFTWARE ENGINEERING
Kieran Fitzpatrick
CHIEF ARCHITECT Jim Hutson
PRINCIPAL SOFTWARE ENGINEER Justin Counts
SENIOR SOFTWARE DEVELOPERS Bill Cappel,
Alexis Barrera, James Motch, Christian McKeegan,
Michael Papp
QA & RELEASE MANAGER Bhramara Thallapragada

WEB DESIGN

DIRECTOR, ONLINE DESIGN Sky Collins
USER INTERFACE DESIGNER Matt Glass
USER INTERFACE DEVELOPER Jason Meyers
WEB PRODUCER Ryan Medlin

HUMAN RESOURCES

VP, HUMAN RESOURCES Kate Coldwell
SENIOR HR REPRESENTATIVE Ellen Cobb
HUMAN RESOURCES INTERN Stephanie Goss

FINANCE

SENIOR VP, COO/CFO Vicki Peilen
DIRECTOR, ACCOUNTING Michelle Reyes
DIRECTOR, FINANCIAL AD OPERATIONS Diane Hacker
DIRECTOR, ADVERTISING ACCOUNT SERVICES
Kevin Greene
STAFF ACCOUNTANTS Scott Lum-Duenas,
Stephanie Man

CONSUMER MARKETING

PRDCTRC, SUBSCRIPTION MANAGEMENT
Shawne Burke Pecar
PRDCTRC, SUBSCRIPTION MANAGEMENT Megan Guard
PRDCTRC, RETAIL SOLUTIONS Scott Hill

CONTACT INFORMATION

PHONE: 415/243-0500

FAX: 415/442-1891

E-MAIL: letters@pcworld.com

WEB: www.pcworld.com

MAIL: PCWorld Editorial, 501 Second St. #600
San Francisco, CA 94107



ADVERTISER'S INDEX

ADVERTISER	PAGE #
1&1 Internet Inc.	16-17,19
APC	49
BitDefender SRL	5
Bose	29
CES 2012	84
Corsair Memory	8
CyberPower Inc.	89
Digital River Ed.	60
Global BizForce	55
Gorilla Glass	C2
Hancom	35
IBM	3
IBM	15
IBM	C4
iBUYPOWER	95
ii2P LLC	10
iProlog Ink Corp.	61
IRIS Inc.	12
KVC Hosting	54
Microsoft Office 365	27
Moneual Lab	11
Newegg.com	78
OCZ Technology	24
Patriot Memory	30
Phiaton Corporation	59
Pioneer Electronics	6
QNAP, Inc.	50
Samsung	C3
Seidio	39
Symantec	20-21
Symantec	46-47
The Neat Company Inc	51
TP-LINK USA	53
Trend Micro	36
TRENDnet	41
Western Gov. Univ.	58

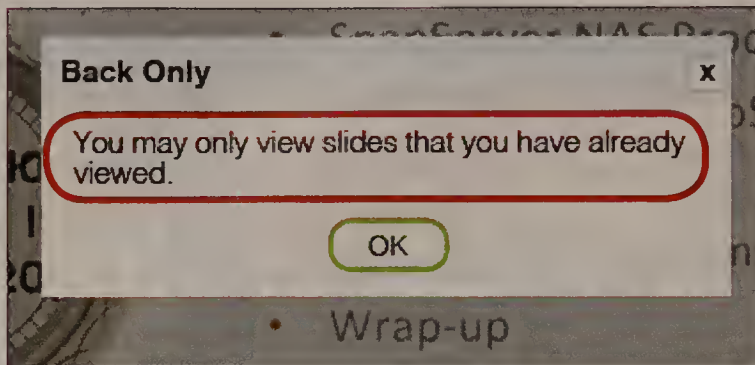


Volume 29, number 11. PC World™ (ISSN 0737-8939) is published monthly at \$24.95 for one year (12 issues), \$49.90 for two years (24 issues), \$74.85 for three years (36 issues) by PC World Communications, Inc., 501 Second Street #600, San Francisco, CA 94107. Foreign orders must be prepaid in U.S. funds with additional postage. Add \$10 per year for Canadian delivery; add \$20 per year for airmail for all other countries. Canadian GST Registration #R124669680. Periodicals Postage Paid at San Francisco, California, and at additional mailing offices. Canada Post Publications Mail Agreement #40612608. Return undeliverable Canadian addresses to: Pitney Bowes, P. O. Box 25542, London, ON N6C 6B2. POSTMASTER: Send address changes to PC World, Subscription Dept., P.O. Box 37571, Boone, IA 50037-0571. Editorial and business offices: 501 Second St. #600, San Francisco, CA 94107, 415/243-0500. Copyright © 2011, PC World Communications, Inc. All rights reserved. The trademark PC World is owned by International Data Group and used under license by PC World Communications, Inc. Technology Advice You Can Trust™, PC World Top 10™, Top 10™, PC World Top 100™, Top 100™, and Consumer Watch™ are trademarks of International Data Group, Inc., and used under license by PC World Communications, Inc. Printed in the United States.

The Back Page

FROM OUR READERS

Learning From the Past



DURING A SALES training session for a new NAS device, John T. Atkins of Elgin, Illinois, hit a road-block. "I was at the end of one slide and trying to progress to the next one," he says. We assume he had nothing more to learn.



PLUGGED IN

Follow us on Twitter
@PCWPluggedIn.

→ Bits of Bernie Madoff's pants are being sold as iPad covers. Presumably, after someone sued them off him.

→ New York City is considering pay-by-phone parking meters. But will drivers get ticketed for using cell phones to pay meters?

→ As HP jettisons its consumer PC business, pundits ask, "Is the PC dead?" No, and in the current economy, it can't afford to retire either.

→ Yale gives iPads to its med school students. Harvard may counter with free iPads plus underlings to carry them.

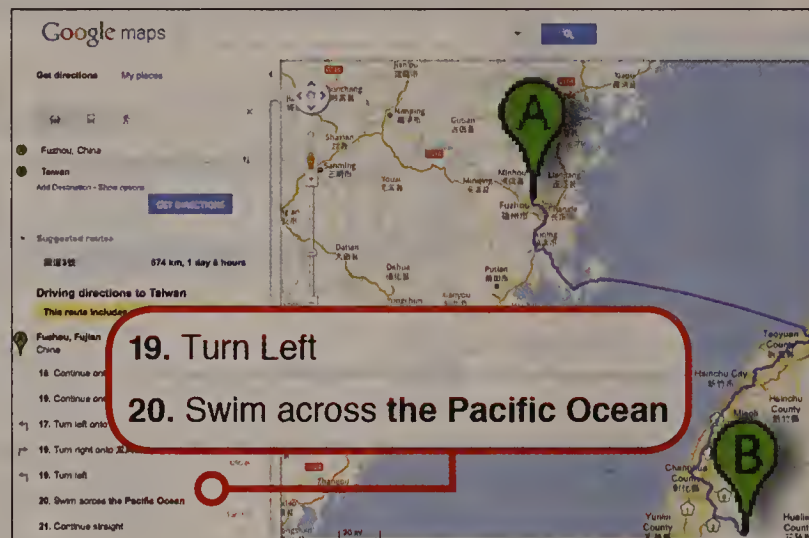
→ Survey: 35 percent of tablet owners use their device in bathroom. When will someone write an app that lets it double as a vanity mirror? ●

—Steve Fox and Steven Gray

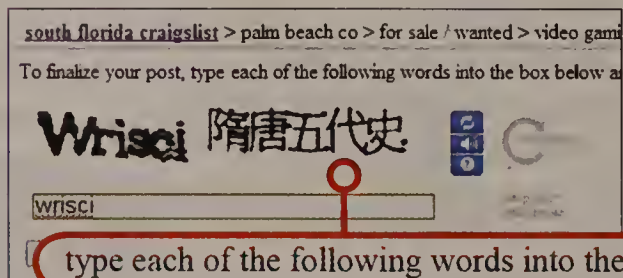
ILLUSTRATION: GARY NEILL

Take Me to Taiwan

FARID KAJANI OF Atlanta stumbled on an oddity in Google Maps. If you click *Get Directions* and then enter Fuzhou, China, as the starting point and Taiwan as the destination, you'll be instructed to 'Swim across the Pacific Ocean'. No mention of whether you need to watch out for sharks.



A Question of Character



BEFORE POSTING TO Craigslist, Nick Outrun of Burnsville, Minnesota, had to verify he was a human by typing into a CAPTCHA box. He had no trouble with the first six letters, but the remaining characters gave him fits.

Have an idea for The Back Page? Send your suggestions to TheBackPage@pcworld.com.

FULL HD



Game beyond the screen.

Bring your favorite games to life with the Samsung 950 Series monitor. Compatible with most media devices, these advanced displays let you experience even more action by converting any 2D game into jaw-dropping active 3D. Featuring full 1080p HD and a stunning .45-inch-thin frame, the Samsung 950 Series comes complete with 3D glasses, so you have everything you need to take your gaming to the next level. That's the wonder of Samsung.

Learn more about our 23" and 27" 3D monitors at samsung.com/3DMonitors.



© 2011 Samsung Electronics America, Inc. All rights reserved. Samsung is a registered trademark of Samsung Electronics Co., Ltd. Screen images simulated. 3D viewing experience depends on source of 3D content. The S23A950D is shown above.

SAMSUNG

The Wonder of Samsung

